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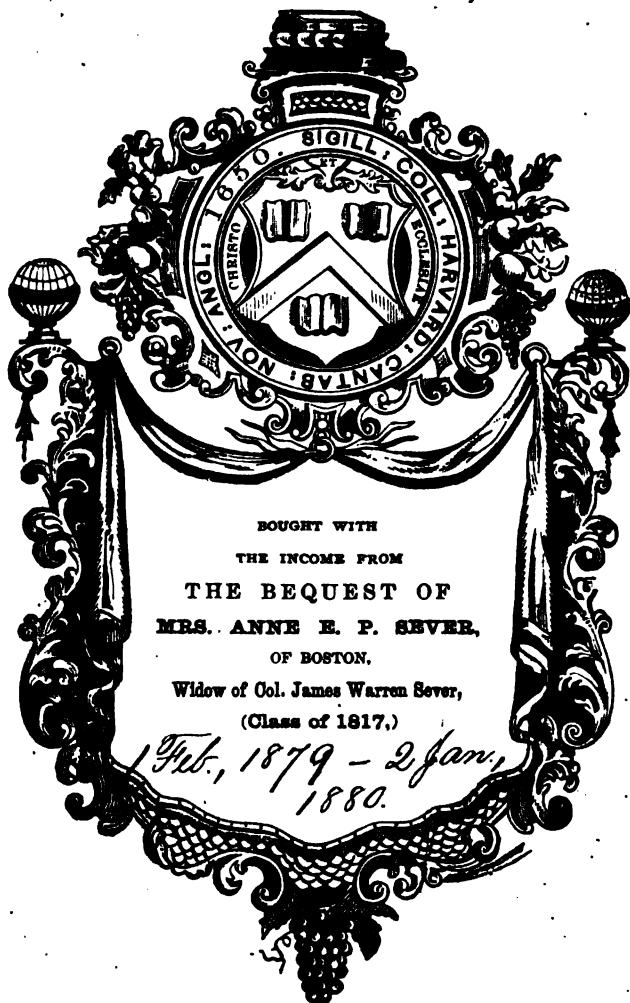
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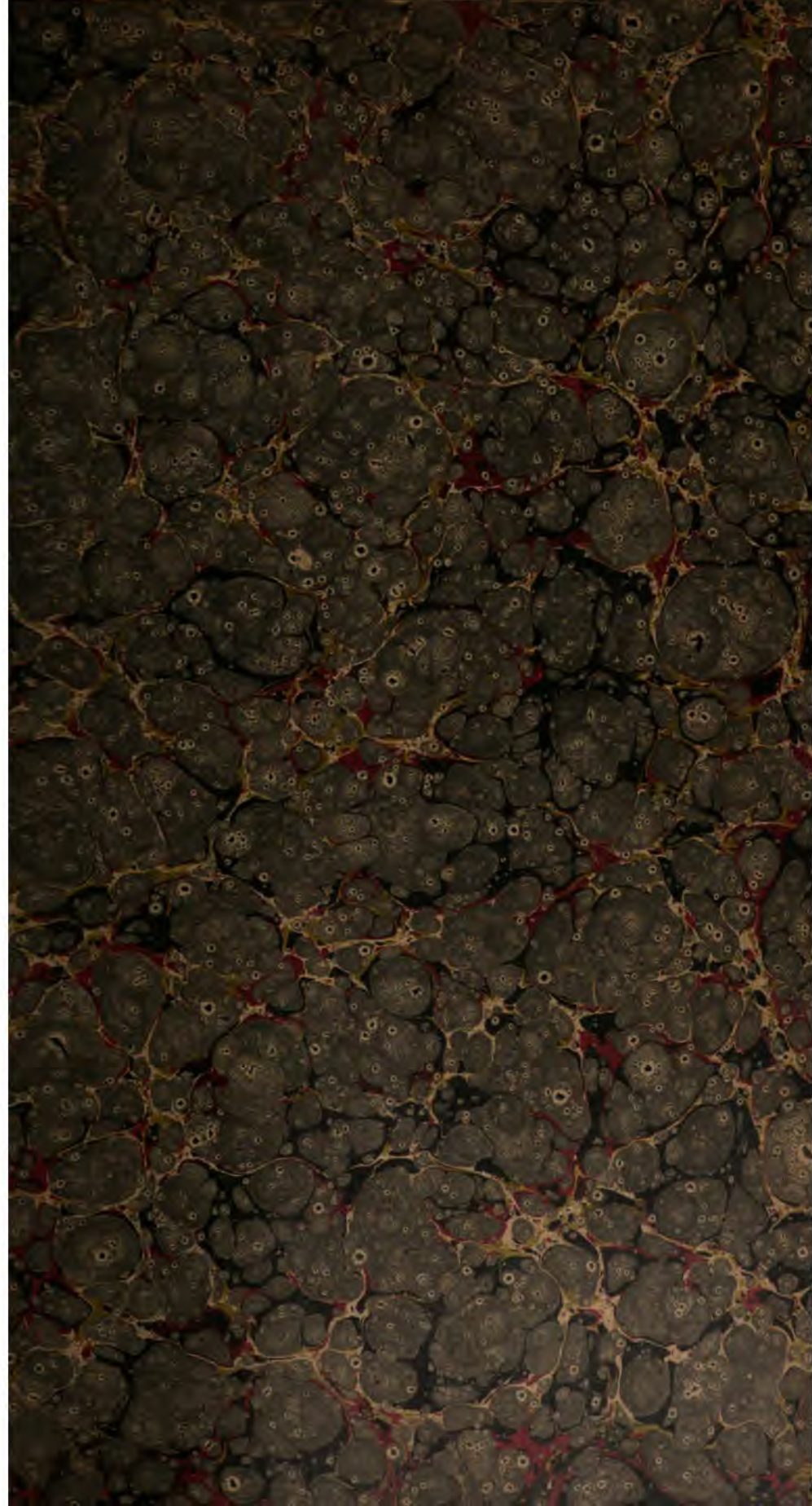
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	Vienna Grains.					
Sulphate of Magnesia	137.98	39.55	39.50	84.16	93.08	104.00
Sulphate of Soda	128.97	46.51	46.59	46.80	123.80	—
Sulphate of Potash	1.67	1.52	—	4.09	4.80	—
Chloride of Sodium	11.54	61.10	61.10	—	—	—
Carbonate of Soda	13.20	—	—	—	—	—
Carbonate of Lime	6.04	0.11	—	—	0.77	8.00
Oxide of Iron and Argilla- ceous Earth	0.08	latent	—	1.19	—	—
Silicic Acid	0.09	—	—	0.03	0.17	—
Carbonate of Magnesia	—	3.49	—	4.98	6.40	3.00
Sulphate of Lime	—	10.34	—	10.07	2.60	8.00
Chloride of Magnesium	—	30.25	30.20	2.16	19.66	3.00
Nitrate of Magnesia	—	—	—	25.17	—	—
Bromate of Magnesia	—	0.87	latent	—	—	—
Chloride of Lithium	—	—	0.09	—	—	—
Carbonic Acid, free and half combined	299.57 8.02	194.24 5.32	177.48 5.09	178.65 latent	251.28 latent	126.00 —

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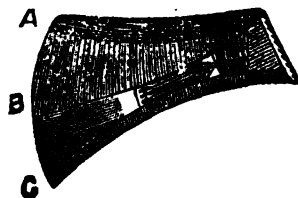
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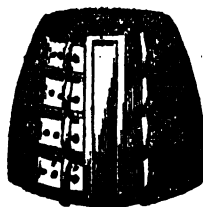


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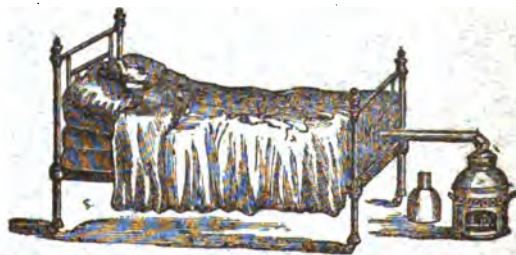
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**THE LONDON
MEDICAL RECORD.**

JANUARY 15, 1879.

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CONTRIBUTION TO THE HISTORY AND SYMPTOMATOLOGY OF AORTIC ANEURISMS.

By Dr. SCHEELE, of Dantzig.*

DURING the course of my practice in this place, I have many times had opportunities of observing cases of aortic aneurism. In three of these I was fortunate enough to verify the diagnosis by *post mortem* examination. These cases were, moreover, especially noteworthy, both from their localisation, the obscurity of their diagnosis, and also with reference to their etiology and symptoms. I believe I am justified in publishing these cases, especially as in the course of their observation an appearance attracted my attention which may be of assistance in the future in the diagnosis of obscure cases.

CASE 1. *Aneurism of the most peripheral part of the thoracic aorta. Lumbar pain and emaciation of one year's duration simulating cancer of the spinal column. Late appearance of epigastric pulsation, murmur, etc. Sudden paraplegia. Death. Aneurism of aorta close on the upper surface of diaphragm. Erosion of bodies of vertebrae. Thrombotic occlusion of abdominal aorta.*—A. Kiel, aged 43, master tailor, had always been healthy, and denied syphilitic or rheumatic affections, or abuse of spirits. He was always known to his friends and acquaintances as a steady, industrious workman. In the winter of 1869-70 he was obliged to work all night. He was then quite suddenly attacked by a severe pain in the loins, which compelled him to take to his bed for some days. Under bleeding, etc., the so-called "lumbago" disappeared, but reappeared at first at long, afterwards at shorter intervals, especially after hard work. The pain was situated at the level of the lumbar vertebrae, seldom radiated, and then generally towards the left side. Soon this was accompanied by obstinate constipation. In the spring of 1872 he noticed that stooping was difficult and painful. Soon afterwards a diminution of his strength occurred; and as by the end of the summer he had become more and more weak, and could not get freedom from pain in any position, he applied to me for galvanic treatment of his presumed spinal affection.

On September 12, 1872, he was a strongly made, middle-sized man, of cachectic appearance, with a suffering expression of face. He was free from fever, and remained out of bed even at night because a "gnawing, boring" pain in the loins prevented him from lying down. While sitting, turning round, and especially in stooping, the patient was very cautious and awkward. In lifting an object off the floor he bent only his knees and hips, keeping his spine quite stiff. Pressure on the spinous processes was not notably painful. Stronger percussion produced pain at the level of the lower dorsal vertebrae. The left renal region was painful on bimanual manipulation; neither tumour nor abnormal pulsation could be felt there. He had no affection of motion or sen-

sation of the lower limbs; the strength of the legs corresponded to the emaciated muscles. He complained of increased pain in the loins when bending or stretching the leg was resisted. In the left groin were two painless, not very hard, lymphatic glands as large as hazel-nuts. There was no atheroma of the arteries, no difference between the radial and crural pulses. His urine was clear and light, without albumen or sugar, and was passed without difficulty. He had a moderate appetite, and could take nourishment in any form without increase of pain. His tongue was coated at the back with white; the bowels were constipated.

My presumptive diagnosis at this time was carcinoma of the lower dorsal vertebrae. An affection of the spine was undoubtedly present. The fixed pain, the difficult movements of the spine, pointed to this. The etiology and genesis of the disease might indicate chronic inflammation, but this was negated by the non-implication of the meninges or the cord itself, and especially by the fact that no relief was afforded by the recumbent posture. This led me to examine the aorta with the view of discovering an aneurism; but the absence of all palpable sign, the age of the patient, his great emaciation, and slight swelling in the left inguinal glands, left carcinoma as the only satisfactory solution. The treatment consisted in hypodermic injections of morphia and chloral alternately, with enemata, as required, for the constipation. During the winter of 1872-73 I lost sight of the patient. Apparently he improved. This relative improvement maintained itself till Midsummer 1873. At that time the pains became worse, and the patient again sought my assistance in October. On now examining the patient, the most striking thing was an apparently considerable pulsation in the epigastrium, and systolic heaving of the left costal margin; the part pulsating under the xiphoid process, beat rhythmically and synchronously with the heart. On palpating here, the hand was forcibly impelled upwards; stronger pressure was painful. Towards the right of the epigastrium the pulsation disappeared, and only a faint communicated diffuse throbbing could be felt. A sharp limitation to the pulsation, or a circumscribed tumour, could not be made out, even by deep palpation. The heart's beat was not obviously strengthened, nor was the apex-beat displaced, being faintly perceptible in the fifth interspace, between the left parasternal and mammillary lines. But it could be distinctly separated from the pulsation below the costal border; the latter was just the least retarded. If the patient were turned on his left side and made to hold his breath at the end of expiration two distinct pulsations could be felt. The apex-beat was there, two centimetres ($\frac{1}{4}$ ths of an inch) outside the left mammillary line. The systolic impulse of the left costal border and the epigastric pulsation underwent no change either in their intensity or situation. When the patient lay on his back and took a deep inspiration the pulsation diminished, but did not disappear. Palpation of the abdominal organs—liver, stomach, and spleen—showed no obvious structural change. Bimanual exploration of the left hypochondrium was very painful, although nothing abnormal could be felt. Percussion aided little in explaining the pulsation. The heart's dullness, neither diminished nor increased, passed down into the left lobe of the liver; the note over the same was dull tympanic. The dull area of the left lobe of the liver passed a little beyond the left parasternal line. The hemispherical paces was not diminished. The splenic dullness was

* Abridged from the *Berliner Klinische Wochenschrift*, July 29, Aug. 5 and 12, 1878.

not increased. Nothing abnormal was found on percussion of the lungs, the limits of which were equally displaceable on both sides. Auscultation revealed at the apex beat a feeble short systolic murmur close to the low first sound. Pure sounds were heard over the other cardiac areas. The aortic second sound was not notably accentuated, it was only a little louder than the pulmonary second sound. The systolic murmur was distinctly increased below the heart's apex. If it were followed with the stethoscope along the left parasternal line from the heart downwards to the cartilages of the false ribs, its intensity increased more and more. It was short, deep, and low, and could be followed as far as the navel. The radial artery was of medium size; the pulse-wave and tension moderate, frequency 96-104. Comparison between the radial and femoral pulses showed a marked retardation of the latter, and this difference was quite extraordinary on comparing the radial with the dorsal artery of the foot. The difference of volume was most striking. The femoral arteries were extremely narrow and badly filled, not half so large as the carotids, for example; this was still more marked in the posterior tibial artery and dorsal artery of the foot, which were difficult to find, from their small size. The pulse-wave also presented a notable difference in height, very obvious on comparing the brachial at the elbow with the femoral. While in the former the wave rose rapidly, in the latter there was a gradual rise to the wave-crest. The pulses of the lower extremities were synchronous on the two sides. The feet were cold, dry, without œdema. There was no noticeable disturbance of sensation or motion. The left inguinal glands were slightly swollen.

Diagnosis.—The following phenomena spoke with certainty for an aneurism.

1. The abnormal pulsation in the scrobiculus cordis, which could be distinguished from the apex-beat, and on the other hand from so-called epigastric pulsation.

2. The systolic murmur audible over the pulsation, as well posteriorly on the left side of the thorax near the vertebral column, at the level of the lower dorsal and upper lumbar vertebræ.

3. The difference in time and volume of the arterial pulses in the arteries above and below the pulsation. The locality of the pulsation, the murmur, the tenderness to pressure near the spine, especially the fact that deep inspiration increased the intensity of the pulsation, pointed to the conclusion that the seat of the disease was the thoracic aorta at its deepest lying part, while the stiffness of the spine indicated erosion of the bodies of the vertebræ. My friend, Dr. Wallenberg, to whom I introduced the patient, verified the whole of the symptoms.

The treatment now consisted in the repeated temporary application of the ice-bag, and in subcutaneous injections of extract of ergot. Both methods were painful to the patient. A beneficial influence could not be observed.

In spite of warnings to be cautious and abstain from heavy work, the patient returned to his occupation. On the morning of December 2, he was standing at his worktable, and reached a large piece of cloth to sew it; in a moment, as he raised it, he fell with a loud cry, and was paralysed in both legs. At a quarter to two I saw him; he was quite conscious; his countenance was pale; he had the *facies Hippocratica*, and *sudor lethalis*. He twisted himself with the movable upper part of his body from side to side, and complained loudly of pain in the belly

and loins, as well as in the legs. The lower extremities were completely paralysed, and cold; deep punctures with a needle were not felt, there was no trace of reflex action. This anæsthesia existed also in the abdominal wall, and reached about as high as the xiphoid process. The abdomen was soft; the muscles were not paralysed, the movements of the recti being easily seen and felt in the restless position of the patient. Pressure upon the abdomen, especially in the left hypochondrium, was painful. In the epigastrium, pulsation could be seen and felt. The radial pulse was very frequent, small, feeble. The femoral pulse was absent on both sides, and pulsation in the abdominal aorta could nowhere be felt. He had frequent hiccup, tendency to vomiting, involuntary fluid stools; urine was passed unconsciously. Death occurred at half-past two.

The *post mortem* examination was made by Dr. Wallenberg and myself under many disadvantageous circumstances. On displaying the whole course of the thoracic aorta a tumour as large as a fist was seen just above the diaphragm. On laying open the aorta, which was full of blood, it was seen to enter an aneurismal sac, which extended from the tenth to half of the twelfth dorsal vertebra. It was oval in shape, about 3.15 inches long, and nearly two inches broad; it was situated completely on the anterior wall of the aorta, and was deviated towards the left hypochondrium. To the right it was limited by the above-named vertebræ. Looked at from the front, its peripheral part covered the cœliac and superior mesenteric arteries. Its peripheral end passed between the inner crura of the diaphragm and into the hiatus aorticus. The aorta was easily detached from the vertebræ, and with it the aneurism. Its latter wall was embedded in the body of the eleventh dorsal vertebra, and had slightly eroded the two neighbouring bodies. The intervertebral discs between the eroded bodies projected slightly forward. The wall of the aneurism embedded in the vertebra did not appear to be ruptured, nor could any communication with the spinal canal be made out. The aneurism was filled with thrombi, in parts completely organised: these could be detached in layers from the wall. The interior of the vessel was still recognisable, in parts very uneven and much thickened by atheroma. The opening of the aneurism into the aorta was well defined, about as large as a thaler: it lay just over the origin of the cœliac artery, and was separated from the latter by a ribbon-like process perforated by two little apertures, which included two-thirds of the lumen of the vessel, and formed a sickle-shaped pouch. An adherent, apparently organised thrombus, about as large as a finger-tendon, springing from the anterior wall of the aorta, lay on this pouch, and closed the entire periphery of the lumen. Above the aneurism the coat of the aorta was very atheromatous. The unfolded aorta measured (after lying in spirit) about 2.4 inches below the aneurism, and at the level of the renal arteries, 1.2 inches. The aorta below the sac to the femoral arteries contained no blood and was patent. The spinal canal could not be opened.

The phenomena presented by this case offer some points of interest. The initial symptoms—the torturing lumbar pain even when lying down, the stiffness of the spine, the cachexia and slight swelling of the left inguinal glands, so long as the physical signs of aneurism were absent, led to the erroneous idea that we had to do with cancer of the spine. The long latency of the nature of the disease was explained by the *post mortem* appearances, and was

due to, 1, the small size of the aneurism; 2, its parietal position; 3, the large opening between the aorta and the sac. No large quantity of fluid was required to fill the relatively small sac; and while the aneurism was parietal, the hindrance to the circulation was comparatively slight. Further, the conditions were unfavourable for the formation of eddies in the blood. The blood did not stream through a narrow opening into a wide space, and consequently the usual systolic murmur was absent. It was only as the sac enlarged and the communication was partially occluded by blood-coagula, that the conditions for the formation of eddies existed, and a systolic murmur became audible. As I was not able to open the spinal canal, I cannot explain all the symptoms observed during life, and particularly the sudden paraplegia, which looked like the consequence of rupture of the aneurism into the canal. But summarising the phenomena compels us, by their striking conformity to physiological experiments, to accept the hypothesis of a so-called ischæmic paralysis. These are the symptoms already observed during life—*a*. The complete absence of pulse in the femorals and abdominal aorta; *b*. The absence of any trace of heightened reflex excitability of the lower extremities, although the seat of the paraplegia plainly was situated above the cauda equina; *c*. The presence of contractility of the abdominal muscles, with, at the same time, paralysis of the sphincters. There are also the corresponding data derived from the *post mortem* examination—*a*. The absence of any distinct opening into the spinal canal from the aneurism in spite of careful investigation; *b*. The complete integrity of the aneurismal sac; *c*. The observation that the aortic lumen was closed with thick clots; *d*. The co-existent filling of the aorta above the aneurism and complete emptiness of the vessels below the same. All these points make the occurrence of a so-called ischæmic paraplegia (Schiffer, Weil) at least probable, while absence of the rigidity which accompanies that form of paralysis may be accounted for by the fact that death occurred before it had time to develop (Stannius and Schiffer). But the rapidly fatal termination of the case by no means contradicts this view. Cases are recorded in which aneurisms have ruptured into the spinal canal, and where the hæmorrhage has been survived during a longer time. Coats's case lived seven weeks. A similar case was observed in the hospital here, that of a sudden painful paraplegia, which was under treatment by Dr. Liebig for more than a month, and which turned out *post mortem* to have been due to rupture of an aneurism into the spinal canal. The cause of this probably is the small extent of the hæmorrhage. On the other hand, the cases of embolism and obliteration of the aorta (Leyden and Tutschek) were followed by rapid death. In some of the cases the thrombus was at the bifurcation of the aorta, in others it was situated more deeply.

CASE II. *Aneurism in the deepest part of the thoracic aorta. Constant intercostal neuralgia on the left side for two years. Marked vibration of the whole left half of the thorax. Evidence of a double pulsation in the cardiac area. Sudden death. Left hæmatothorax. An aneurism of the thoracic aorta as large as a child's head. Evident rupture. Marked erosion of the eighth and ninth dorsal vertebrae, not of the intervertebral discs. Opening of the ninth vertebra-costal joint.*—Reinhard Reiss, aged 42, a magistrate's collector at Strohdeich, near Dantzic, had until recently been always healthy; he specially

denied having had syphilis or rheumatism. In his youth he did not indulge more in drink than others, and had confined himself chiefly to beer. I had known him since 1871, and at that time he was apparently healthy. He dated his illness from the autumn of 1872, and gave the following account. As cashier he was obliged frequently to carry large sums of money, and was used to carry the pouch pressed to his left side. One day, in order to escape a threatening storm, he was hastily carrying 1,000 silver thalers in his customary manner up a steep street, when he suddenly felt a severe pain in the loins and the left side, which obliged him to go to bed. This pain became more tolerable, but never completely disappeared, and left him incapacitated for work for weeks. This was accompanied by palpitation of the heart, dyspnoea, loss of sleep, and a feeling of uneasiness which even made him cry out. He tried different means of cure without benefit.

On October 27, 1874, he was a strongly built man, well nourished, with pale face and anxious expression, and no fever. He rested in a crouching position in bed. He complained of a constant pain in the left side of his chest and splenic region, so violent that it robbed him of his sleep, and made the recumbent position impossible for any length of time, extending like lightning sometimes into the epigastrium, sometimes round the left side to the spine. He also complained of constant violent palpitation and great dyspnoea, without cough or expectoration. Finally, he complained of indigestion with pain after meals, however sparing, and of obstinate constipation. He was slightly dyspnoeic. His story was interrupted by frequent deep, sobbing, sighing inspirations. In his movements he showed great caution. He supported himself very carefully with his hands; turning and raising himself took a long time. Pulsatory vibration existed in the cardiac region, involving the whole left side of the thorax. It was especially strong in the left hypochondrium. The heaving followed the thorax in both the transverse and antero-posterior diameters, and was synchronous with the radial pulse. The apex-beat was situated on the fifth left intercostal space, $\frac{1}{2}$ inch of an inch outside the mammillary line; it was of some obvious resistance, moderately high and sharp. The hand laid on the præcordia was heaved, especially over the apex, and there was a distinct and more resistant upheaving of the ribs below the apex-beat. This second pulsation could be felt on the lateral aspect of the thorax, although feeble. The pulsations could be still better made out by making the patient lie on his left side, and palpating with the fingers in each intercostal space. There was also evidence of decided displacement of the apex-beat outwards. The second pulsation extended nearly two inches from the mammillary line, and was perceptible over a good part of this, especially during expiration. Lying on the left side was very painful. Percussion gave little additional information. The heart's dulness reached beyond the left sternal border, beyond the mammillary line a little, beginning above at the upper border of the third rib, and passing down into the left lobe of the liver. The last was much diminished, and reached to the mammillary line, while under the free costal border it was soon lost in the tympanitic note of the stomach. An abnormal configuration of the dulness of the left liver lobe was not made out. There was no abnormality of the percussion in front or at the side of the thorax. Behind, the note was a little less loud and deep below the angle of the left scapula than on the

right side. The fremitus in the same place was decidedly weaker than on the right side; so, too, were the breath-sounds, but they were vesicular and without accompaniments. Auscultation of the heart gave an abnormal loud sound at the apex as well as down over the deeper lying pulsation. The first sound was especially loud, with a metallic tone (*tintement métallique*). This was audible at the side and behind the left side of the thorax. The second aortic sound was loud, short, and clapping. Nowhere was a trace of a murmur audible, even after moving the patient many times. The radial artery was of moderate tension, not well filled. The pulses were regular, isochronous, 98. The crural pulse was scarcely to be felt, not noticeably later than the radial; there was very little change in the wave or lumen. On sharply and suddenly compressing both crural arteries at one time, the patient complained of increased pain in the loins and in the left side. Repeated palpation, and still more percussion, showed the great tenderness of the left wall of the thorax; this tenderness was limited to three points (Valleix), the costal cartilages, the axillary line, and posteriorly near the spine; pressure on these places, and especially over the seventh, eighth, ninth, and tenth intercostal spaces, caused violent pain. The skin of these spots showed exaggerated sensibility to pricking with a needle, as well as to changes of temperature. The lowest dorsal vertebra, and particularly its spinous process, showed very marked tenderness. No other lesion could be discovered.

The diagnosis of this case was not quite simple. The state of the blood, the great pallor of the patient, the impossibility of lying down for any length of time, the caution with which he performed every movement, indicated a deeply lying derangement of the entire organisation. The abnormal extent of pulsation and strong vibration in the left side of the thorax pointed to some malady of the circulatory system. The following facts appeared to me to warrant the belief in an aneurism of the thoracic aorta: 1. The existence of a second pulsation distinct from that of the heart in the left side of the thorax; 2. Its "truly pulsatorial" character, and the rhythmical vibration of the thorax in every direction; 3. The seat of the second pulsation below the apex-beat; 4. The strong vibration and heaving of the thoracic wall throughout, unaccompanied by hypertrophy and displacement of the heart; 5. The painfulness and difficulty of moving the spine; 6. The extension of left-sided intercostal neuralgia (both the consequences of spinal erosion); 7. The slight dullness and diminished fremitus below the left scapula, with persistent vesicular murmur; 8. The heightened pain on compressing both femoral arteries at the same time.

On the other hand, two cardinal symptoms were absent. There was no systolic murmur, no difference in the arterial pulses; but, in face of the above accumulated facts, I believed both these points to be of little weight. As regards the further course of this case, I can only say that he died quite suddenly a week after my examination. The widow notified his death to me, and willingly acceded to my request for an examination of the body, which confirmed my diagnosis.

On opening the thorax, the left pleural cavity was found to be completely filled with blood very slightly coagulated. The entire heart was thrust over to the right. After removing the blood, the left lung was

found compressed, and pushed against the spine. The left lower lobe was quite atelectatic (sinking in water), and reduced to about a third of its volume. The left upper lobe was still partially aerated. The pericardium contained a little clear fluid. The heart was strongly contracted. The endocardium was strikingly pale, as was also the cardiac muscle. The muscular wall of the left ventricle was thick—three times as thick as that of the right. After removing the anæmic, but quite healthy, right lung, the arch of the aorta could be seen dilated and very atheromatous. On the thoracic aorta was an aneurism as large as a child's head, and elliptical; it reached from the sixth to the eleventh dorsal vertebræ, its peripheral end reaching the aortic foramen. On slitting up the aorta, the whole sac of the aneurism was laid bare. It was not peripheral, but the aorta widened gradually from the sixth dorsal vertebra; the dilatation at the level of the ninth dorsal vertebra reached its greatest extent, and diminished again opposite the aortic aperture in the diaphragm. The wall of the aneurism was apparently thin, studded with a very few organised thrombi; for the most part, the inner lining, which was very atheromatous, lay uncovered. Opposite the tubercle of the ribs where the wall of the aneurism was reflected, there was a longitudinal ragged slit, about two inches in length, running parallel to the long axis of the aneurism (the place of rupture). The intervertebral discs projected freely into the cavity of the aneurism. The bodies of the vertebræ were much eroded, especially the eighth and ninth. The head of the ninth rib lay bare, the joint being opened. The rib itself was for about $1\frac{1}{2}$ inches divested of its periosteum. The aneurism was not without injury removable from the eroded vertebræ. In one place the wall was formed of the eroded vertebra itself. No examination of the intercostal nerves was made.

REMARKS.—These appearances not only confirm the diagnosis, but explain the symptoms observed during life in the plainest manner. It is very obvious that such marked erosion of the vertebral bodies, with complete opening of the ninth costo-vertebral joint, and stripping of the corresponding rib of its periosteum, must have given rise during life to stiffness of the spine, pain in the back, and intercostal neuralgia. Not less clear is the appearance of double pulsation in the region of the apex-beat. The seat of the aneurism behind and below the heart must have given rise to this double pulsation. Otherwise, it is easily conceivable, how the relations in space of these two pulsations to the other were distinguished as the patient lay upon the left side. The greater freedom of the heart's movements in opposition to the fixed anatomical attachments of the aneurism to the spine makes this a necessary consequence. Further, the configuration of the aneurism explains the auscultatory phenomena. The relative thinness, and the lack of deposit on the sac obviously led to a great and regular pulsation, while the gradual widening of the lumen of the aorta further prevented the formation of eddies therein. Hence was it that auscultation gave only a loud first sound, not but that under more favourable circumstances probably a systolic murmur would be audible. It is remarkable that there was no difference to be felt between the crural and radial pulses; but the examination was made only with the finger, which may, by care and attention, enable us to distinguish a difference in the form of the wave, but sometimes quite fails to indicate dif-

ferences of time. In conclusion, I may relate another symptom, which in this case, which wanted the most characteristic features, decided the diagnosis, and which, the latter being confirmed by the necropsy, I might describe as pathognomonic. It is *the suddenly heightened painfulness in the region of the aneurism by compression of both femoral arteries*. The origin of this symptom is plain. The closure of two arterial trunks, of the diameter of the femorals, must notably raise the quantity of blood in the aneurismal sac, and exaggerate the morbid influence on the structures near the aneurism. In this particular case the sudden rise of tension irritated the free lying nerves and nerve-terminations in the eroded vertebræ and costal articulation, and caused the pain in the loin and left side of the thorax to rise to an intolerable degree.

ROBERT SAUNDBY, M.D.

(To be continued.)

MASING ON THE PRACTICE OF NERVE STRETCHING.

Dr. E. MASING, of St. Petersburg, reports in the *St. Petersburger Medicinische Wochenschrift*, No. 34, 1878, two cases treated by exposure and stretching of nerve trunks.

The subject of the first case was a male, aged 37, who had for eight years suffered much from neuralgic pains in the lower limbs. The attacks commenced near the antero-superior spine of the left ilium shortly after the man had been exposed during one night to cold and wet. In spite of frequent and varied treatment, the pains gradually increased in intensity and extent, and finally radiated along both extremities. Between five and six years after the commencement of this affection, the muscles moving the right foot became paralysed, and soon afterwards those of the left foot. During the last year there had been slowly developing anæsthesia along the posterior surfaces of both lower limbs. The patient, when first seen by Dr. Masing, was mentally depressed, pale and emaciated. He was easy only when sitting with the lower limbs up to the hips enwrapped in woollen material. Intense pain was caused by any movement, by exposure of the lower limbs to cold air, and by the recumbent posture. The pain commenced near the left ilium and from thence extended to the lower limbs. No objective morbid sign could be made out at the starting-point of the pain; there was no subcutaneous infiltration or peritoneal thickening. The pulse was normal. The lower limbs were wasted and the feet and limbs cool. There was almost total anæsthesia of the skin over the ischiatic region, along the posterior surface of each thigh, and over the whole of each leg and foot except in the portions along the inner surface supplied by the long saphenous nerve. All the muscles of both legs and feet were paralysed, those of the thighs, supplied by the anterior causal and obturator nerves, were not thus affected. There was occasionally involuntary discharge of stools, and micturition was much impaired.

On September 15th, the patient having been placed under the influence of chloroform, a vertical incision 10 centimètres in length was made from the fold of the buttock downwards along the posterior surface of the left thigh. The sciatic nerve, which appeared to be quite healthy, having been exposed and isolated was then forcibly extended. At the same sitting a similar operation was performed on the right side.

The proceedings occupied about twenty minutes, and were carried out under antiseptic conditions. For some hours after the operation the patient suffered most severely from radiating pains in the region of the left hip. On the following morning he was easy and could lie down without trouble. On the fourth day he suffered much from pains over nearly the whole body, and especially in those parts of the legs and feet which before the operation had been anæsthetic. On the fifth and sixth days there was but little pain. On the seventh day he suffered much from burning sensations along the course of the left long saphenous nerve. On November 3rd there was marked improvement, the pains radiating from the left iliac region had been much relieved and the man was now able to move the muscles of the legs and feet. The main trouble at this time was severe burning pain in the left anterior crural nerve and along the left saphenous nerve as far as the knee. On November 8th the left anterior crural nerve was exposed and stretched. The operation was soon followed by much improvement in the general condition of the patient. On April 7th of the present year the man was in good health, able to walk well, and quite free from pain and from anæsthesia.

The subject of the second case was a boy, aged 12 years, whose left foot had been injured through a fall. The injury had resulted primarily in swelling of the extremity with much tenderness, and subsequently in persistent spasm of the muscles of the left leg. When the patient was first seen by Dr. Masing, the left foot presented a condition of extreme equino-varus, all the toes being bent at right angles to the dorsum. The muscles of the left leg were in a tetanic condition. Active movements at the joints of the distorted foot were completely abolished, and attempts at passive motion were attended with much pain. There was hyperæsthesia of the skin of the foot and leg, and also very marked tenderness over the trunk of the sciatic nerve in the thigh, and along the three great branches of this nerve in the leg. Locomotion was prevented through pain. During sleep the foot became lax and as mobile as the opposite extremity. The contraction and distortion recurred at the moment the lad was aroused. Dr. Masing diagnosed the case as one of neuritis of the sciatic nerve, commencing as a result of the injury to the foot in the perineal and two tibial nerves and invading gradually the main trunk. The healthy condition of the ham-string muscles indicated that but part of the sciatic nerve was affected, and the unilateral extent of the morbid condition, the preservation of the normal innervation of the bladder, and of all portions of the body supplied by the lumbar plexus, led to the conclusion that the spinal cord and its membranes remained in a healthy state. On January 16th, after other plans of treatment had been tried without any success, the left sciatic nerve was exposed and stretched. This operation was followed on the next day by contractions over the whole of the left lower limb, and by forcible flexion at the knee. The hyperæsthesia of the leg still persisted. On the third day the patient suffered much from chronic spasm of the muscles of the left leg. During the first week in February, no improvement having taken place previously in the condition of the limb, there were frequent paroxysms of violent clonic spasm, the leg becoming very much flexed. At this time the hyperæsthesia had extended beyond the region of the leg and passed to the left thigh, and to the left sides of the pelvis, abdomen, and thorax. From February 6th, when the patient was first treated

by frequently repeated subcutaneous injection of morphia, there was a temporary improvement, and in the course of one week all the more severe symptoms had disappeared. At the end of a fortnight, however, after the cessation of this treatment in consequence of dyspepsia, loss of appetite, and headache, all the patient's troubles returned. Towards the end of May some improvement was noted after continuous blistering of the spine in the lumbar and sacral regions. The pain was then much relieved, and the patient was able to go about on crutches. The paroxysms of clonic spasm were much less frequent and less severe, but distortion of the foot and friable flexion at the knee still persisted.

The patient was again seen after an interval of three months, on August 16th, and his condition had then much improved. He was able to extend the left leg so as to touch the ground with the toes, and could walk without crutches. There was still much hyperæsthesia. The lad's general condition was very satisfactory.

Dr. Masing, in some remarks on this case, states that there was much obscurity as to its precise nature. The symptoms, he holds, contraindicated any central lesion and pointed rather to a reflex neurosis. The nerves about the left ankle had probably been torn and contused in the injury to this joint, and a centripetally spreading neurosis had resulted. The disturbances set up after the operation in the regions supplied by the anterior, crural, lumbar, and intercostal nerves were, it is supposed, purely reflex, since neither atrophy nor paralysis could be observed in the affected parts.

COLIN ON SEPTICÆMIA.

M. COLIN, of Paris, states in a recent communication (*Bulletin de l'Académie de Médecine*, No. 48, 1878) that in his experimental investigations on septicæmia he has for a long time been struck with the fact that the same animal material in a putrid condition, deposited on a raw surface or inserted in cellular tissue, will cause in certain circumstances a fatal affection, whilst in others it will prove to be absolutely harmless. He has observed also that this putrid material sometimes produces its grave effects when taken in a minute quantity, and at other times needs, in order to produce any such effects, to be used in a considerable mass. It is mentioned also as a third striking fact, that the putrid material produces in one instance alteration of the blood transmissible by inoculation, and in another instance will fail to communicate any kind of virulence to this fluid. After having proved that these were frequent, and not exceptional facts, M. Colin endeavoured to determine the conditions in which each is produced, in order to find, if possible, some means of distinguishing the different putrid conditions of the organism.

The object of M. Colin in this communication is to show that these putrid conditions are distinct, both in their mode of manifestation and their gravity, and in the kind of alteration of the organic material by which they are developed. He endeavours to find out in the first place whether the putrid conditions developed after the introduction into the organism of putrescent material are of the same kind, or, on the contrary, constitute different kinds, that may be separated, and be definitely and precisely characterised.

If a putrid fluid, as, for instance, an infusion of

muscle or of portion of intestine be injected, after filtration, into the veins, it will either cause death within a few hours or even minutes, or set up an adynamic febrile condition, terminating fatally in the course of a few days, and producing a manifest change in the blood, and well-marked intestinal lesions. In the former instance the putrid material produces immediately after injection extreme prostration, with weakening of the contractions of the heart, and diminution of arterial tension. Here the injected material acts as a poison. The toxic property cannot be due to vibriones, bacteria, or ciliated infusoria, for the putrid fluid when filtered, almost frozen and apparently free from living and active organisms, will have the same effect if injected, and even if proto-organisms were present in such fluid, sufficient time is not allowed between the injection and the development of the symptoms for their multiplication. It is very probable, M. Colin asserts, that the putrid fluid, if it does not contain some special deleterious element, such as sepsine, is poisonous in itself and in its entirety, in virtue of the modifications that it has undergone. In experiments of this kind the injected fluid does not produce a condition at all resembling septicæmia. The blood of the poisoned animals does not present any proto-organisms, and it does not possess any contagious or virulent properties. Injections may be made on animals most impressionable to the action of putrid agents without exciting in these the slightest functional disturbance. Here, then, as the first well-established point, we find that putrid matter when injected in a large dose kills rapidly, without producing any appreciable lesion, and without communicating to the blood or any of the organic juices virulent properties. If the same putrid material be injected in smaller quantity—one-half, one-third, or one-fourth—it will set up an adynamic condition, disturbances of the circulation, respiration, and calorification will be slowly developed, and death will result in the course of two or three days, with gastro-intestinal and pulmonary lesions, and with certain changes in the blood, such as a deep colour, diminished coagulability, and a tendency to dissolution of the globules, and to a diffusion of their colouring matter in the serum. In this second condition the injected putrid material gives rise to a true morbid condition, with symptoms and lesions, and we have presented a condition analogous to the putrid or adynamic fever of M. Bouillaud. This, although a grave condition, is not septicæmia, since the blood, altered as it is, does not contain active vibriones, and does not possess virulent properties. In some instances in which the injected fluid does not rapidly produce an intense adynamic condition, the organism presents for weeks, and even for months, certain chronic disturbances, such as emaciation, hectic, and swelling of the lymph glands, which indicate a slow and prolonged action of the poison. This slow poisoning is more likely to be developed when the fluid has been injected by some other way than that of the venous vasculature, as, for instance, by the bronchial or gastric mucous membrane. It follows, then, from this second series of experiments, that a filtrated putrid fluid when injected in smaller quantity than would be capable of causing speedy death, will act with less intensity and produce varied disturbances, the conditions in different uses varying from that of well marked putrid adynamia, causing death in two or three days, to that of slow hectic fever, proving fatal only in a minority of the cases. The putrid fluid when thus

injected in reduced quantity has no constant or specific action; it may or may not produce a more or less characteristic putrid condition; it does not possess such properties as fit it to determine septicæmia.

The general impression that putrid material, without distinction of form or origin, may determine septicæmia, provided it has undergone sufficient change, is, M. Colin states, quite erroneous. It may be stated generally that decomposition beyond a certain degree destroys in animal material its property of developing septicæmia, although the material in this condition of advanced decomposition be charged with a great number of active proto-organisms. The septicæmic condition may be most readily set up in animals by injection of the following organic fluids: blood rapidly decomposed in the open air at a slightly elevated temperature, and still retaining its colour and presenting its globules; the blood of a dead herbivorous animal removed some time after death from a large central vein, as the vena portæ, and allowed to rest for a time exposed to the air; peritoneal serosity from a dead herbivorous or carnivorous animal, taken some days after death, and then kept at rest until it has become turbid, fetid, and charged with very numerous proto-organisms. The blood, serous fluids, and other juices of an animal that has died through "charbon", are apt, if injected after commencing decomposition has destroyed their special virulence, to set up a septicæmic condition having no special character. Most fluids which in the living animal acquire characters of putridity in parts submitted to the direct contact of the air or even removed from its influence, as in much contused and mortified structures, and at the bottom of fistulous tracts, are very apt to create, when injected, a very well characterised septicæmic condition. Finally, and this, M. Colin states, deserves particular notice, various animal substances that have not yet undergone any change may, where inserted under the skin or in the muscular interstices, develop septicæmia, provided they may in their new situation become decomposed to a certain degree and in a certain manner. When one inserts into the subcutaneous cellular tissue of an animal a fragment of the size of a pea of very fresh tubercle, no septicæmic manifestation will be set up if the opening in the skin be closed by a pin and twisted suture. The small wound will soon cicatrise, and the inserted material will disappear in the midst of a small caseous focus, not presenting any bad character. But if, twenty-four or forty-eight hours after the insertion of the fragment of tubercle, the suture be removed so as to permit the access of air to the subcutaneous tract, the swelling there will take on a bad aspect, and emit a fetid odour, and in the course of a few days the animal will succumb to a septicæmic affection. The same condition will follow even if the fragment of tubercle be removed after it has remained under the skin for twenty-four or thirty-six hours. The swelling rapidly acquires the characters of septicity. The small quantity of foreign matter which has already become diffused and infiltrated in the surrounding cellular tissue undergoes a change when submitted to the action of the air and, in its turn, alters the serosity of the swelling. The development of septicæmia in those circumstances depends on the access of air to the tract in which has been deposited the organic material capable of undergoing decomposition. This development is almost certain to result if the small wound be filled or surrounded

by serosity and sero-sanguinolent fluid. If free and healthy suppuration has been established the septicæmic manifestation will not take place. Healthy and normal pus excludes septicæmia as it excludes charbon.

M. Colin states that according to the results of experiments, nothing in the animal organism undergoes change so quickly as serous fluid mixed with putrescible foreign material, however minute the quantity may be. This serous fluid, which may be readily absorbed, no doubt plays the chief part in the production of purulent infection in cases of severe contused wounds of the limbs and after major operations. This fluid may undergo change sooner than pus, or before suppuration is established. Cases of sudden and early surgical poisoning after a major operation can be accounted for only by the action of altered serous fluid; more remote attacks are probably the result of decomposition of pus. Septicæmia then is developed not only by the injection of animal matter already in a putrescent state, but also, and with less facility, when the animal material, unchanged at the time of its introduction, finds in its new seat conditions permitting it to decompose or to become putrid.

Certain states of the wound or of injured tissues are important conditions of the realization of septicæmia. Laceration and contusion of tissues, by destroying the anatomical elements and impairing their vitality, favour the rapid development of a septicæmic attack. The injured and mortified solid or fluid elements then act as foreign material, and on exposure to the air and any external ferment at once undergo change.

M. Colin gives the following *résumé* in concluding his paper: "Putrid material, according to its quantity and degree of alteration, exerts a variable action on the animal organism. In a large dose it determines a rapid and invariably fatal poisoning, which causes no marked alteration in the blood beyond a tendency to incoagulability, and is not associated with the reproduction of proto-organisms. In cases of this kind the injected fluid fails to communicate any kind of virulent property either to the blood or to any other juice of the economy. In reduced quantity the animal fluid gives rise to an adynamic febrile condition, which varies in intensity according to the nature of the animal. If this condition prove fatal, it is so through the production of visceral lesions, and through changes in the blood. Reproduction of proto-organisms takes place, at least in those parts where the putrid agent has been deposited, and frequently throughout the whole mass of the blood. Certain putrid fluids that have not undergone much alteration, such as blood mixed with products of intestinal transudation, decomposing blood of an animal affected with charbon, peritoneal serosity removed some time after death, may alone, when injected in extremely minute quantities, determine septicæmia transmissible by inoculation after the manner of the majority of virulent affections. Here there is always virulence of the fluid and reproduction of the proto-organisms introduced from without."

VAN ERCKELENS ON COLOTOMY.

DR. F. VAN ERCKELENS, of Aix-la-Chapelle, in a contribution to a recent number of the *Archiv für Klinische Chirurgie*, Band xxiii, Heft 1, presents an analysis of 262 cases of colotomy, and discusses the

comparative merits of the two principal operations ; that proposed by Littré in 1710, and first performed by Pillore of Rouen in 1776, and that proposed by Calusen in 1778 and carried into practice sixty years later by Amussat. The latter operation has been most favoured, indeed almost exclusively adopted, by English and American surgeons, whilst most instances of Littré's operation have occurred in Germany and France. Very many of the cases tabulated by the author have been collected from papers published by Hawkins and Curling in this country, and many also from the valuable article on colotomy written by Dr. Erskine Mason, of New York (*American Journal of Medical Sciences*, vol. 66, 1873). Most of the results from the analysis could be based on not more than 249 of these collected cases, since in thirteen no mention could be found as to the kind of operation that had been performed.

In this slightly reduced number the proportion of cases in which the operation proved successful or was not, directly or indirectly, the cause of death, is 58.4 per cent. The numbers of successful and fatal cases being 165 and 84. This percentage cannot be regarded as high, and compares unfavourably when compared with that of ovariotomy, which in itself is a much more serious operation. Colotomy, however, is usually performed for the purpose of preventing death in extreme cases, and on subjects who have suffered long from some very protracted disease. The most unfavourable results are presented by the cases in which the operation was performed on infants with congenital atresia recti. Of 44 cases of this kind not more than 20 (45.2 per cent.) were successful. In the recorded cases of colotomy for the relief of intestinal carcinoma the percentage is higher, being 59.2. The chances of a successful result are much greater when the operation is performed in cases where the disease is not so serious as to impair to any extreme degree the strength of the patient or to threaten life. Of the 16 cases in which the colon was opened for the treatment of fistula, 13 (81.2 per cent.) were unsuccessful. In very few of the fatal cases in the tables, the author asserts, could death be fairly regarded as the direct result of the operation. The above results prove, it is held, the propriety of colotomy in those cases where the operation is usually resorted to. When performed as an almost desperate measure, and for the purpose of saving life, it is successful in more than half the number of cases, and the percentage of recoveries from the operation in instances of less severe disease is far more favourable.

The question as to which of the two operations, that of Littré and that of Amussat, is to be preferred, has often been discussed. In dealing with this, the author considers the data afforded by his tables of cases ; the special dangers of each operation, the difficulties in the performance of each, and the advantages and disadvantages attending the situation of the artificial anus. According to the tabulated cases the proportion of deaths is much higher after Littré's than after Amussat, being 46.4 per cent. with the former, and 38.4 per cent. with the latter. But, as Dr. van Erckelens points out, Littré's operation is usually performed under less favourable conditions and in more desperate cases than those in which recourse is taken to the method of Amussat. In a large proportion of the cases of atresia recti the colon was opened in the groin. In cases of fistula, on the other hand, colotomy is usually performed in the lumbar region. When per-

formed under equally favourable conditions the difference in the results does not appear to be so very great. The author's tables show that in cases of carcinoma the percentage of recoveries is 63 after Amussat's, and 61 after Littré's operation, and in cases of non-malignant obstruction, 50 after the former, and as high as 58.5 after the latter. It would seem, then, that the operation of Littré, notwithstanding the necessity it involves of opening the peritoneal sac, is not more dangerous than that of Amussat. According to Dr. Mason, who has operated only by Amussat's method, "wounds of the peritoneum are not now held in such dread by surgeons as formerly, as our means of combating peritoneal inflammation are much more efficacious, and the portion of membrane wounded has often lost its peculiar physiological properties and its pathological tendencies before any injury with the knife". Pure traumatic peritonitis is not a frequent cause of death after Littré's operation. In not one of six fatal cases reported by Holmes was death directly the result of this operation. In some cases, those of atresia recti in infants, fatal peritonitis may have been previously excited by punctures and incisions made from the perinæum. In one method of colotomy, as in the other, a fatal result may almost always be attributed to the disease, and not to the interference of the surgeon. The operation gives relief to the distended intestine, but unfortunately in too many cases merely retards the development of peritonitis consequent on prolonged obstruction. The wound, according to Dr. van Erckelens, heals more favourably after Littré's than in Amussat's operation. Erysipelas and diffused suppuration occur frequently after each method, and were met with in about half the number of tabulated cases in which Amussat's operation had been performed, but whilst fourteen of these were fatal, in four only did death occur after the method of Littré. The diffused suppuration after colotomy is very probably due to the prolonged contact of faecal matter with fresh or non-granulating surfaces, and, if this be so, is more favoured by the conditions of Amussat's operation.

Littré's operation is a comparatively easy one, and does not require more skill and experience on the part of the operator than are necessary for the performance of any major surgical proceeding. There is but a thin layer of muscular structure to cut through, and there need not be any great extent of wound either in length or depth. Amussat's, on the other hand, is a difficult operation. The intestine is deeply seated, and cannot often be easily found. The wound is wide and deep, and the recognition and suitable division of the different layers of fascia and muscle require much anatomical knowledge. Most surgeons who have frequently performed Amussat's operation have met with difficulties, especially in finding and recognising the colon. Amussat himself, in one of his operations, experienced much anxiety and uncertainty. In another case the operation, this surgeon stated, was long and difficult, and in a third he mistook the kidney for the descending colon, and wounded this organ.

Dr. van Erckelens, in concluding his paper, argues that the groin is a much less inconvenient structure for an artificial anus than the lumbar region.

W. JOHNSON SMITH.

FATTY EMBOLON IN FRACTURES.

By M. DÉJERINE.*

IN 1862, Zenker, making an autopsy on the body of a man that had been crushed between two wagons, found the capillaries of the lungs filled with fat. He believed that this fat might have come from the stomach, or from the liver, which was in a state of fatty degeneration, for both these organs had been injured. Zenker considered this fact very interesting from an anatomical point of view, but he did not know the relation which existed between fatty embolon and traumatism, so did not record as of great practical importance the case which he had observed. In the same year Wagner published many cases of fatty embolon, but he regarded the fat as originating in a metamorphosis of pus, and as one of the causes of pyæmia. It was not until 1865 that Wagner and Busch recognised in osseous alterations the nature and causes of fatty embolon, each giving an exact and complete description, nearly at the same time; from that date the doctrine of fatty embolon has rested upon an unattackable basis, and pathological, clinical, and experimental works have rapidly followed one another. It was proved in every fracture that there was a fatty embolon, having its origin in the medulla of the bones, that this embolon was more or less considerable, that it was rarely localised in the lung, but it was met with in every tissue of the organism. Then it was shown that in a certain number of cases the diagnosis could be made during life, and that it should be regarded as a frequent cause of death; it was pointed out that by this mechanism a fatal termination was brought about in a number of those cases of more or less sudden death observed after severe injuries, and up to this date attributed, in a general way, to what is designated in practical surgery by the name of shock. With regard to this it is sufficient to mention the works of Bergmann, Bzerny, Halm, and Flournoy.

From the researches of the different authors enumerated, it follows that fatty embolon, general or localised in the lung, is much more common than is frequently supposed, and that it is produced not only in all fractures, simple or complicated, but it may be observed, without reference to injury, in all cases where the bones are altered in structure from some cause or other; in such the fact is less grave. The number of cases of fatty embolon observed under circumstances about to be mentioned, are actually considerable, reaching 140, and all, or nearly all, have been observed in Germany, but two such observations were noted in the ancient faculty of Strasbourg. Having lately met with two very clear cases of pulmonary fatty embolon, following osseous alterations, we publish them to draw attention to a subject little known to us, still less studied, but the importance of which should not be lost sight of in reference to published statistics; a doubly important subject for consideration, not only because it enlarges the scope of pathological knowledge, but more especially because it makes us recognise a very fatal complication of great injuries, and which, therefore, has considerable clinical importance from a prognostic point of view. On the 28th of October last, a young man, aged 16, was admitted into the Hôtel Dieu, in the service of Dr. Cusco, who had had his right leg crushed by a tramway. A certain quantity of blood was lost, and the patient sank

about an hour after admission, being sensible to the end. The autopsy was made by the interne, M. Bruchet, and a fracture of both bones of the leg at the middle third was found, and also a fissure of the tibia reaching the upper articulation. He very kindly sent me the lungs and the heart. The vena cava had been previously ligatured to permit of an examination of the blood in the right ventricle. The microscopical examination was made in the laboratory of Professor Vulpian, and revealed the following particulars. The blood of the right ventricle, obtained by making a puncture into the ventricular wall previously washed with ether, contained a large quantity of fat in the form of drops, and recognisable by its micro-chemical characters, disappearing under the action of ether, and taking on a black coloration under the influence of osmic acid. The vessels of the lungs were gorged and literally injected with fat; sections of the parenchymatous tissue of the lung cut with scissors and examined with the microscope, showed in the interior of the vessels, arterioles, veins, and capillaries, elongated masses, three, four, and five millimètres in length, embellished with a special refulgency, disappearing under the action of ether, and becoming a deep black colour with osmic acid. These globules of fat were so abundant at certain points that they designated not only the peribulbar vascular network, but also the alveolar capillary network. An examination practised at all points of the two lungs gave us the same results. The second case, not less instructive than the first, came from the service of Dr. Brouardel at St. Antoine. The lungs, which we have examined in conjunction with M. Mayor, were sent by M. Marchand, interne of the service. They were taken from a man who had died thirty-six hours after a fracture of the right parietal bone, and, as in the preceding case, the pulmonary vessels contained more or less fat. In both cases no other viscera than the lungs were examined for fatty embolon. The two cases which we here report are absolute examples demonstrating fatty embolon after injury to bones; in this note we do not wish to enquire the part the fatty embolon took in causing death in these two cases. In the first we see but little that could be put down to any other cause; this is a subject which we propose to study more completely in the future, for cases of fatty embolon are in reality far from being rare, and we are persuaded will daily become more frequent when researches are undertaken in those who have succumbed from injuries. The two cases here reported resemble on all points those which have been made public in Germany of late years, and are confirmations of the published facts of different authors who have enquired into the question; but, as was said previously, we have believed it right to publish them, to draw attention to a subject worthy of study from every point of view, for, well as the doctrine of fatty embolon has been expounded in the faculty's course by Professors Vulpian and Charcot, it does not seem, up to the present time, to have attracted the attention of the medical world.

T. F. CHAVASSE, M.D.

ROSENBACH ON ARTERIAL PULSATION OF THE LIVER.

Dr. ROSENBACH, of Breslau, contributes a paper on the arterial pulsation of the liver to the *Deutsche Medicinische Wochenschrift*, for Oct. 5, 12, and 19:—Hitherto, he remarks, a systolic pulsation of the

* *Le Progrès Médical*, November 23, 1878.

liver in all its parts, but especially in the right lobe, has been held to indicate tricuspid insufficiency, as being produced by the systolic regurgitation into the adjacent large veins; and this pulsation was easily distinguishable from the mere impulse communicated to the liver in such affections as cardiac hypertrophy, abdominal aneurism, etc. Moreover, the importance of this hepatic pulsation was further enhanced by the observations of Friedreich, that it is one of the earliest symptoms of tricuspid insufficiency, earlier even than pulsation of the jugulars. The following case, however, shows that there may exist a pulsation of the liver in no way differing from that produced in tricuspid insufficiencies, while yet no sign of valvular disorder existed during life, nor could any such be traced after death; hence another explanation of its cause becomes necessary.

P. A., aged 18, a compositor's apprentice, who had in former years had several attacks of acute rheumatism, was admitted into the hospital on the 5th May, on account of asthmatic dyspnoea with severe palpitation of the heart. His complexion was sallow; respiration 30, and laboured; pulse 84, jerking; arterial tension somewhat diminished. There was distinct pulsation in even small peripheral arteries, while on both sides there was violent beating of the carotids. The venous circulation was in every respect normal; no oedema, no ascites. The liver could be indistinctly felt immediately below the ribs. There was strong systolic pulsation extending to the entire sternum, the præcordial and epigastric regions, though superficial in the latter situation and easily obliterated by pressure. Cardiac dulness began between the second and third ribs, extending three-fourths of an inch to the left of the mammillary line and to the right margin of the sternum. At the apex there was a blowing systolic and faint short diastolic murmur, while at the upper part of the sternum there was a long diastolic and a faint, short systolic murmur. The heart sounds extended into the carotids, to the palmar arch and femoral artery. On percussion there was marked dulness of the lower portion of the lungs, from one inch below the inferior angle of the scapula to one-third of an inch above it, and almost encircling the thorax; in the same area the breathing was feebly vesicular—otherwise the respiratory sounds were normal. His appetite was good; the bowels were regular; there was no albumen in the urine, which was rather high coloured. At first, under generous diet, the patient's condition slightly improved, especially after the removal from the left side by aspiration of about a pint of fluid. From the 15th to 20th May, there existed between the fourth and sixth ribs, and extending from the right edge of the sternum to near the left axilla, loud pericardial and pleuritic friction, after the disappearance of which the patient's condition grew steadily worse. The asthmatic paroxysms increased, oedema of the feet and ascites set in, and the pleural effusion increased. While there was no change in the condition of the heart and vessels a marked alteration took place in the liver. It had gradually and steadily enlarged, so as to be distinctly felt projecting from under the ribs, and a slight pulsation throughout its substance became perceptible. On the 25th May, it formed a hard well-marked tumour, whose lower margin extended one-third of an inch below the umbilicus, and presented throughout its extent a marked systolic pulsation. A stethoscope applied on the right side of the epigastrium was lifted an inch high by the impulse; the hand pressed into the epigastrium was thrust outward at the systole; the impulse,

however, having not only a forward but also a lateral direction. To the fingers placed over the epigastrium the sensation was as if the liver floated in the ascitic fluid, and was rhythmically thrust in every direction at the heart's systole. This pulsation of the liver continued very distinct until death, on the 16th June, and though the ascites increased, it did not diminish but became rather more perceptible. Even to the end there was no jugular pulse.

Necropsy.—The pleurae were partially covered with fibrinous exudation, containing each about half a litre of yellowish flocculent fluid. The pericardium was united throughout its extent with the heart. The heart was considerably dilated, containing fluid blood in both sides; its muscular substance on section was spotted, of a light yellowish brown, especially on the left side. The thickness of its walls on the right side was 0·27 to 0·35 inch (7 to 9 millimètres), on the left side 0·51 to 0·78 inches (1·8-2·0 cen.). The tricuspid valve was normal, but the mitral valve was thickened throughout and insufficient; there was also thickening and insufficiency of the aortic semilunar valve. The origin of the coronary arteries was dilated; there was marked fatty degeneration of the substance of the left ventricle. Both lungs presented red induration; they were devoid of air through compression in their lower portions. The patient was, therefore, on admission the subject of extreme insufficiency of the aortic valves with inflammatory effusion into both pleurae.

The course of the case may be divided into two stages by the occurrence of pericarditis. At first the valvular defect was sufficiently compensated, but the subsequent pericarditis, leading as it did to complete obliteration of the sac of the pericardium, produced extensive and rapid disturbance of compensation, as was shown by the oedema, ascites, and enlargement of the liver. Hence, also, the obstacles presented to the flow of the venous blood were largely increased, producing venous stenosis. The second stage was marked, in addition to the condition of the stenosis, by a marked systolic pulsation of the liver, the explanation of which is impossible, on hitherto accepted grounds, seeing that all signs and symptoms of tricuspid insufficiency were completely absent, a circumstance clearly established by subsequent examination. Now, if we consider the extreme force with which, in cases of aortic valvular insufficiency, the blood is propelled into the arteries, so that the impulse is felt, not only by the entire body, but is perceptible even in the capillaries, we can conceive that a marked pulsation is possible also in the liver. If this is, however, not observable in all such cases of valvular disease, it is obvious that in certain cases, as the present one, there is a coincidence of favourable circumstances giving greater prominence to this phenomenon of hepatic pulsation. As such, we may regard, in the present case, the considerable enlargement of the liver while the left ventricle yet retained its full force and activity; and also in the constriction of the aorta (the width of the aorta is given as 8 centimètres.—[*Rep.*]). The tense and enlarged liver, easily examined by palpation, could, therefore, reproduce the first impulse of the heart all the more readily, since the difference between the strong systolic and feeble diastolic beat was unusually great, owing to the extensive regurgitation, and as indicated by the strong short jerking pulse. The relatively rare concurrence of such favourable circumstances probably explains why pulsation of the liver has not hitherto been observed in cases of purely aortic insufficiency. For in this valvular disorder,

venous stenosis generally occurs only after the left ventricle has to a great extent lost its contractile power; or, should it still continue active, when the arterial walls have lost their elasticity, and so their function has become impaired. Since, therefore, venous stenosis, and consequently enlarged liver, is a result of diminished arterial pressure, this organ usually presents a sufficiently large surface for palpation only then when the heart's beat has become too feeble to be transmitted into and through the hepatic vessels. But in the present instance matters were entirely different. Venous engorgement and stenosis had taken place in consequence of the pericarditis and subsequent obliteration of the pericardial sac, and also of the pressure of the pleuritic exudation, and while yet the left ventricle retained almost its full force and activity, and the aorta yet retained its proper elasticity. Hence the concurrence became possible of hepatic enlargement and increased arterial pulsation, the latter rendered transmissible to a distance by the normal elasticity of the arterial walls.

W. J. TREUTLER.

CLAUS ON THE OCCURRENCE OF HALLUCINATIONS IN GENERAL PARALYSIS OF THE INSANE.

MANY authors have denied that hallucinations ever occur in the course of general paralysis; no mention of them is made in the descriptions given of this disease in the principal text-books (e.g., those of Griesinger, Leidesdorf, Blandford). Hitzig states that illusions in the domain of common sensation are the most common form of perversion of the senses observed in general paralysis, but that hallucinations of sight and hearing are rare; he mentions, however, one case of the latter kind.

Dr. Claus (*Allg. Zeitschrift für Psychiatrie*, Band xxxv, Heft 5) has observed thirty-seven cases of paralytic dementia with special reference to this question; six of the patients were females. Four of the patients were reported to have been subject to false perceptions of the senses before they came under the author's care, but no symptoms of the same were afterwards noted by him. In three of these cases the hallucinations of sight were of the character common in delirium tremens, though it is certain that only one of the patients had been intemperate in his habits: in the fourth case the hallucinations were referred to the organ of hearing.

In two male patients hallucinations were observed both before and after admission to the asylum. One of these patients had marked hallucinations of sight before admission, and frequent illusions of hearing afterwards. The other case is described at some length by the author; the patient had been under observation for nine months, and numerous instances are given of the most distinct hallucinations of hearing, to which he was subject; illusions of sight were also observed, but not so frequently; the patient has temporarily improved, but there is no reason whatever to doubt the accuracy of the diagnosis of general paralysis.

In a large proportion of the cases, the patients complained of indefinite sensations, e.g., feelings as of fire, water, etc., in various parts of the body; but to these the author attaches but little importance. In the region of taste and smell no symptoms were observed which, after careful investigation, could be held to indicate the existence of definite hallucinations or illusions of those senses.

In nine cases, besides those already mentioned, false perceptions of the senses of sight, touch, and hearing were observed. In eight of these the symptoms were either of short duration or were only noted on isolated occasions. In two patients, one of which was a woman, the sight was exclusively affected. In three the sense of hearing only; and in three others, both these senses were equally affected. In some of the cases the symptoms observed amounted to definite hallucinations, in others they could only be described as illusions.

The author's observations show that hallucinations and illusions may occur at any period during the course of general paralysis, except during its last stage (that of complete dementia). He is unable to agree with Dagonet in the opinion that these affections of the senses only occur during the stage of cheerful maniacal excitement, nor with Hagen in stating that the hallucinations of paralytics are always of a terrifying nature; they were, on the contrary, usually of a cheerful and pleasant character, having reference, for the most part, to sexual matters.

Looking to the favourable course taken by the disease in the patient whose hallucinations were most active and persistent, Dr. Claus suggests that perhaps their occurrence may be taken as indicating that the disease will run a mild course, and as affording hope of a remission.

The chief conclusions deducible from the facts given in the paper are that, in general paralysis, occasional non-persistent hallucinations and illusions are not uncommon, but that their occurrence with the activity and persistence seen in some other forms of insanity is very rare.

CHAS. S. W. COEBOLD, M.D.

LARYNGOLOGY.*

RECENT PAPERS.

1. ANGER.—On Fatal Hæmorrhage after Tracheotomy. (*Gazette Médicale de Paris*, No. 42, 1878.)
2. BAGINSKY.—The Laryngoscopic Appearance in Croup. (*Central-Zeitung für Kinderheilkunde*, 1878, No. 1.)
3. BARLOW.—Thyrotomy. (*The Lancet*, No. xx, Vol. ii, 1878.)
4. BAYER.—Two Cases of Tracheotomy. (*Annales des Maladies de l'Oreille et du Larynx*, Vol. iv, No. 4, 1878.)
5. BERGER.—On Tracheotomy by means of the Galvano-Cautery. (*Bull. de la Soc. de Chir.*, Vol. iv, No. 8, 1878.)
6. BIRCH-HIRSCHFELD.—Carbolic Acid Inhalations in Whooping Cough. (*Deutsches Archiv für Klin. Medicin.*, Vol. xxii, Nos. 5 and 6, 1878.)
7. BROWNE.—Primary Cancer of the Tonsil: Epithelioma of Tongue, invading Tonsil: Epithelioma of Pharynx, invading the Larynx: Encephaloid Cancer of

* These reports will henceforth be published regularly. They will give information on the recently published communications relating to diseases of the pharynx, larynx, and nose. The original communications will be made use of, as far as possible, and reports from other reviews or critiques will only be given in those instances in which the originals are not at hand. Communications brought forward in societies, etc., will be immediately reported, based upon the usual abstracts in journals; but it is intended to mention them again in the index of our report, which appears after the publication of that volume of the *Transactions* of the Society in which they are contained. Thus the reader will be enabled to find easily the original report. Communications relating to accounts of cases, operations, etc., will be merely mentioned in the index, unless they touch on questions of a general character and of common interest.

the Larynx. (*Trans. of the Patholog. Society*, Vol. xxix, 1878.)

8. BROWNE.—Forms for the Taking of Throat Cases, with Outlines of Fauces, of Posterior Nares and of Larynx, as seen in the Mirror, and with a Tabular Statement of the Differential Signs of various Laryngeal Lesions. (London: Baillière, Tindal and Co., 1878.)

9. BUROW.—Recurrence of Papillomatous Growth in the Larynx after eleven years. (*Berl. Klin. Wochenschrift*, No. 47, 1878.)

10. CAMPARDON.—The Treatment of Whooping-Cough by Tincture of Myrrh. (*Bulletin Gén. de Thérap.*, Vol. 95, No. 5, 1878.)

11. CHEEVER.—Tracheotomy in an Adult, without Ether. (*Boston Med. and Surg. Journal*, Vol. 99, No. 20, 1878.)

12. CHEEVER.—Syphilitic Constriction of the Pharynx. (*Boston Med. and Surg. Journal*, Vol. 99, No. 21, 1878.)

13. COHEN.—On Incarceration of the Epiglottis. (*Philadelphia Med. and Surg. Reporter*, 1878, and *London Med. Record*, Nov. 15, 1878.)

14. Committee of the Royal Medical and Chir. Society. The Relations between Membranous Croup and Diphtheria. (*Brit. Med. Journal*, No. 930, 1878.)

15. CORMACK.—The Course of Diphtheria in Two Brothers, almost simultaneously stricken. (*Edinburgh Med. Journal*, Nov. 1878.)

16. CORY.—On Ulceration of the Frænum Linguae in Pertussis. (*Brit. Med. Journ.*, No. 932, 1878.)

17. CRAWFORD.—A Case of Diphtheria, in which Tracheotomy was performed: Recovery. (*Glasgow Med. Journal*, Vol. x, No. 10.)

18. CRIPPS.—Treatment of Hæmorrhage from Punctured Wounds of the Throat and Neck, etc. (*Medico-Chirurg. Transactions*, Vol. lxi, 1878.)

19. CURTIS.—Cases of Diphtheria treated with Salicylic Acid, Chlorate of Potash, and Dialysed Iron. (*The Boston Med. and Surg. Journal*, Vol. 99, No. 13.)

20. DENUCE.—Naso-Pharyngeal Polypus presenting enormous prolongation into the Pterygo-Maxillary Cavity. (*Gazette des Hôpitaux*, No. 135, 1878.)

21. DURET.—On the Necrosis of Laryngeal Cartilages. (*Revue Mensuelle de Méd. et de Chir.*, No. 9, 1878.)

22. EHLMANN.—A Case of Phlegmonous Tonsillitis, followed by Ulceration of the Internal Carotid. (*Gaz. Méd. de Paris*, No. 42, 1878.)

23. ELIAS.—Tracheotomy in the First Year of Life. (*Deutsche Med. Woch.*, No. 45, 1878.)

24. ELLIOTT.—On Ulcer of the Frænum Linguae in Whooping-Cough. (*Brit. Med. Journ.*, September 7, 1878.)

25. EWART and SIMPSON.—The Specific Origin of Diphtheria. (*Brit. Med. Journ.*, Sept. 7, 1878.)

26. FIECHTER-JUNG.—A Case of Tracheotomy. (*Correspondenzblatt für schweiz. Aerzte*, 1878, and *Centralblatt für Chirurgie*, No. 36, 1878.)

27. FOULIS.—Intralaryngeal Growths. (*Brit. Med. Journ.*, Nov. 16, 1878.)

28. FOULIS.—Note on the Excision of Tumours of the Palate and Fauces (with woodcut). (*Brit. Med. Journ.*, October 12, 1878.)

29. GRISSLER.—A Case of Chorea Laryngealis. (*Allgemeine Medicin. Centralzeitung*, No. 95, 1878.)

30. GOTTSSTEIN.—On Ozæna and on a Simple Method of its treatment. (*Berl. Klin. Woch.*, No. 37, 1878.)

31. GOUGENHEIM.—On Œdema Glottidis in Laryngeal Phthisis. (*Gazette Méd. de Paris*, No. 36, and *Gazette Hebdomad.*, No. 46, 1878.)

32. GREENFIELD.—Diphtheria associated with Enteric Fever. (*Trans. of the Pathol. Society*, Vol. xxix, 1878.)

33. GREENFIELD.—A Case of Croup in a Child Ten

Months Old: Tracheotomy: Recovery. (*St. Thomas's Hospital Reports* for 1877.)

34. HACK.—On the Mechanical Treatment of Laryngeal Stenoses. (Volkmann's *Sammlung Klin. Vorträge*, No. 152.)

35. HARDY.—Syphilitic Eruption of Rare Form following Tonsillar Chancre. (*Gazette des Hôpitaux*, No. 105, 1878.)

36. HEINZE.—Laryngeal Consumption. (*Brochure in 8vo, with Woodcuts.* Leipzig: Veit and Co., 1879.)

37. HEYMANN.—Phonatory Spasm of the Ventricular Bands. (*Berl. Klin. Woch.*, No. 40, 1878.)

38. HOWSE.—Tracheotomy in impending Death from Chloroform and Ether. (*Brit. Med. Journal*, October 26, 1878.)

39. JOHNSON.—On Foreign Bodies in the Air-Passages. (*The Lancet*, Nos. xv and xvi, Vol. ii, 1878.)

40. KITTLER.—On Paralytic Affections of the Voice in Phthisis, and Two Rare Cases of Paralysis of the Recurrent Laryngeal Nerve. (*Bayer ärztl. Intelligenzblatt*, Band xxv, 22, 1878, and *Schmidt's Jahrbücher*, Vol. 179, No. 8, 1878.)

41. KOCH.—Cicatricial Obliteration of the Posterior Orifice of the Left Nostril. (*Annales des Maladies de l'Oreille et du Larynx*, Vol. iv, No. 4, 1878.)

42. KOCH.—Narrowing of the Larynx after Typhoid: Remarks on Laryngo-Typhoid (*continuation*). (*Ann. des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 5, 1878.)

43. KRISHABER and NICAISE.—Inter-Crico-Thyroid Laryngotomy by means of the Thermo-Cautery. (*Gazette Hebdom.*, No. 48, 1878.)

44. KRISHABER.—Contribution towards the Study of the Respiratory Troubles in Syphilitic Laryngitis. (*Gaz. Hebdomadaire*, etc., No. 45, 46, 47, 1878.)

45. KRISHABER.—Suffocating Goitre; Laryngotomy between Cricoid and Thyroid Cartilages; Catheterism and Dilatation of the Trachea. (*Gazette Méd. de Paris*, No. 41, 1878.)

46. KRISHABER.—On Subcricoid Tracheotomy in the Horse. (*Gaz. Méd. de Paris*, No. 44, 1878.)

47. LAMALLERÉ.—Constriction of the Larynx following Syphilitic Necrosis of the Cricoid Cartilage. (*Annales des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 5, 1878.)

48. LISTER and YEO.—Case of Multiple Papillomatous Growths in the Larynx, Extirpated by Complete Laryngotomy, Removal of Vocal Cords, Preservation of Voice. (*Trans. of the Clin. Soc.*, Vol. xi, 1878; see also *Brit. Med. Journ.*, No. 896, 1878.)

49. LÖWE.—Contributions towards the Anatomy of the Nose and of the Oral Cavity. Berlin: Denicke, 1878.

50. LORWENBERG.—The Adenoid Tumours of the Naso-Pharyngeal Cavity: their Influence upon Audition, Respiration, Phonation; their Treatment. (Pamphlet, 75 pages. Paris: Delahaye and Co., 1878.)

51. MACCALL.—On Ulceration of the Frænum Linguae in Whooping-Cough. (*Brit. Med. Journal*, Sept. 21, 1878.)

52. MANNEL.—On Spasm of the Larynx produced by Irritation of the Superior Laryngeal Nerve. (*Allgem. Wiener Med. Zeitung*, No. 39, 1878.)

53. MARSH.—Case in which Severe Hæmorrhage, following the Operation for Cleft Palate, was stopped by Plugging the Posterior Palatine Canal. (*Transactions of the Clin. Society*, Vol. xi, 1878.)

54. MARTIN.—Tracheotomy without Tubes. (Quoted from *The Dublin Journal of Med. Science*, Sept. 1878.)

55. MASUCCI.—On the Local Treatment of the Syphilitic Lesions of the Larynx. (*Annali Universali di Med. e Chir.*, Vol. 246, 1878.)

56. MEERSCHEIM.—Foreign Body in the Air-Passages. (*Deutsche Med. Wochenschrift*, No. 47, 1878.)

57. MICHEL.—On Dysphagia. (*Berl. Klin. Wochenschrift*, No. 35, 1878.)

58. MORITZ.—Foreign Body in the Air-Passages. (*St. Petersburger Med. Wochenschrift*, No. 44, 1878.)

59. MUNSON.—The Pneumogastric Nerve. (*New York Med. Journ.*, Vol. xxviii, No. 3.)

60. MÜLLER-WARNECK.—The Treatment of Diphtheria before and after Tracheotomy. (*Berlin. Klin. Woch.*, Nos. 44 and 45, 1878.)

61. NAGUEIRA.—Case of Croup and Successful Tracheotomy in an Infant, aged 15 Months. (*El Anfitrion Anatomico Espanol*, etc., 31 July 1878, and *Monatsschrift für Ohrenheilkunde*, etc., No. 11, 1878.)

62. NAUNYN.—Methodical Deep Inspiration as a Treatment of Paralysis of the Posterior Crico-Arytenoid Muscles. (*Berl. Klin. Woch.*, No. 47, 1878.)

63. NEUBERT.—Salicylic Acid in Whooping-Cough. (*Fahrbuch für Kinderheilkunde*, Vol. xiii, Nos. 1 and 2.)

64. ODEVAINE.—Case of Tracheotomy. (*The Indian Med. Gazette*, Vol. xiii, No. 9.)

65. O'GRADY.—Spasm of Larynx from Inhalation (Swallowing?) of Ammonia. (*Med. Press and Circular*, Oct. 2, 1878.)

66. O'GRADY.—a. Cleft Palate. (*Med. Press and Circ.*, Oct. 23 and Nov. 20, 1878.) b. Croup: Tracheotomy. (*Med. Press and Circ.*, Nov. 20, 1878.)

67. ORY.—Formulæ in Cases of Hoarseness and of Aphonia. (*Journal des Sciences Médicales de Louvain*, No. 10, 1878.)

68. PAGET.—Case of Discharge of Watery Fluid from one Nostril. (*The Lancet*, No. 22, Vol. ii, 1878.)

69. PARKER.—On Tracheotomy in Membranous Laryngitis, the Indications for its Adoption, and some Special Points as regards its After-Treatment. (*The Lancet*, 1878.)

70. PARROT.—Hereditary Syphilis. (*Le Progrès Medical*, No. 34, 1878.)

71. PETIT.—On Palliative Operations in Cancerous Patients. (*Bulletin Gén. de Théor.*, Vol. 95, No. 7, 1878.)

72. PINDER.—On the Angina in Scurvy. (*Wiener Med. Wochenschrift*, No. 39, 1878.)

73. POTAIN.—Herpetic Angina. (*Gazette des Hôpitaux*, No. 115, 1878.)

74. PREISENDOERFER.—Primary Carcinoma of the Larynx occurring in a Patient aged 82. (*Berl. Klin. Woch.*, Nos. 43 and 48, 1878.)

75. ROBINSON.—A Case of Unilateral Atrophy of the Face, accompanied with Slight Paralysis of the Adductors of the Vocal Cords. (*American Journal for Med. Sciences*, No. cli.)

76. ROBINSON.—Epithelial Cancer of the Larynx: Tracheotomy. (*New York Med. Journ.*, Vol. 28, No. 5.)

77. ROGER, GUENEAU DE MUSSY and MOUTARD-MARTIN.—Report on Delhii's Paper on the Ulceration of the Frænum Linguae in Whooping-Cough. (*Gazette des Hôpitaux*, No. 109, 1878.)

78. SAMONDES.—On the Arrest in the Development of Naso-Pharyngeal Polypi. (*Archives Générales de Méd.*, October 1878.)

79. SANSOM.—Note on a Case of Localised Empyema, with Secondary Croup (Tracheo-Laryngitis). (*Med. Times and Gazette*, 1878.)

80. SCHNITZLER.—On Laryngoscopy and Rhinoscopy, etc. (*Wiener Klinik*, No. 10, 1878.)

81. SCHREIBER.—On Paralysis of the Posterior Crico-Arytenoids. (*Berl. Klin. Woch.*, No. 42.)

82. SCHRÖTTER.—Multiple Papillomata in Larynx and Trachea. (*Wiener Med. Wochenschrift*, No. 48, 1878.)

83. SCHRÖTTER.—a. Demonstration of a Foreign Body in the Larynx below the Right Vocal Cord; b. Demonstration of a New Lamp for Laryngoscopic Purposes. (*Wiener Med. Wochenschrift*, No. 48, 1878.)

84. SEMON.—Thyrotomy for the Removal of a Membrane completely Obliterating the Larynx. (*Lancet*, 1878.)

85. SEMON.—Case of Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles. (*Trans. of the Clin. Soc.*, Vol. xi, 1878; see also *The Lancet*, Nos. 16 and 17, 1878.)

86. SMIDOWITSCH.—Apomorphia in Croup and Acute Laryngitis. (*St. Petersburg. Med. Wochenschrift*, No. 35, 1878.)

87. STARCKE.—Critical Reminiscences of a Winter in the South. (*Berl. Klin. Woch.*, Nos. 43, 44, 45, 1878.)

88. STETTER, G.—On Foreign Bodies in the Oesophagus and in the Larynx. (*Archiv für Klin. Chirurgie*, Bd. xxii, Heft 4, 1878; and *Centralblatt für Chir.*, No. 41, 1878.)

89. STIRAP—WOOD.—Treatment of Coryza. (*L'Union Médicale*, No. 130, 1878.)

90. STÖRCK.—Hæmatoma Retro-Pharyngeale. (*Wiener Med. Wochenschrift*, No. 46, 1878.)

91. TAUBE.—Treatment of Diphtheria and Croup by Turpentine-Oil, and Submucous Injection of Carbolic Acid. (*Deutsche Zeitschr. f. pract. Med.*, No. 36, 1878.)

92. TIFFANY.—Removal of a Naso-Pharyngeal Polypus by the Temporary Depression of the Upper Jaw. (*Transactions of the Med. and Chir. Faculty of the State of Maryland*, 1878, quoted from *The Lancet*, No. xxi, Vol. ii, 1878.)

93. THORNER.—The Treatment of Whooping-Cough by Carbolic Acid Inhalations. (*Deutsches Archiv. für Klin. Medizin.*, Vol. xxii, p. 314.)

94. TOBOLD.—On the Electric Illumination of Some Cavities of the Living Animal Body. (*Berl. Klin. Woch.*, No. 40, 1878.)

95. VOLTOLINI.—On the Use of the Galvano-Cautery. (*Berl. Klin. Woch.*, No. 36, 1878.)

96. VOLTOLINI.—A Fish-Bone in the Throat, and on the Removal of such Foreign Bodies. (*Monatsschrift für Ohrenheilkunde*, No. 11, 1878.)

97. WALTON.—The Function of the Epiglottis in Deglutition and Phonation. (*The Journal of Physiology*, Vol. i, Nos. 4 and 5.)

98. WALTER.—Wound of the Neck affecting the Crico-Thyroid Membrane. (*Annales des Mal. de l'Oreille et du Larynx*, Vol. v, No. 4, 1878.)

99. WARREN.—Tracheotomy Tube. (*Boston Med. and Chir. Journ.*, Vol. 99, No. 16.)

100. WATSON.—A Case of Fleshy Polypus (Round-Celled Sarcoma) involving the Antrum, Orbit, and Nostril. (*Trans. of the Path. Soc.*, Vol. xxix, 1878.)

101. WHEELER.—Chorea of the Glottis. (*Boston Med. and Chir. Journal*, Vol. 99, No. 16.)

102. WHISTLER.—On the Use of Iodoform Pastilles, and on the Advantages of Gelatine Basis in the Manufacture of Lozenges. (*Med. Times and Gazette*, No. 1483, Vol. ii, 1878.)

103. WHISTLER.—Lectures on Syphilis of the Larynx. (*Med. Times and Gazette*, 1878, Vol. ii, Nos. 1473, 1474, 1475, 1480, 1481.)

104. V. WINIWARTER.—Contributions towards the Statistics of Carcinomata, etc. (Stuttgart: F. Enke, 1878.)

105. WISS.—Therapeutic Communications. (*Berl. Klin. Woch.*, No. 39, 1878.)

106. WOLFF.—Operations on the Inverted Head. (*Volkmann's Sammlung Klinischer Vorträge*, No. 147.)

107. YULE.—Remarks on the Origin of Fever, with a Description of an Epidemic of Diphtheria. (*Med. Times and Gaz.*, 1878, Vol. ii, Nos. 1471 and 1474.)

108. ZUCKERKANDL.—On the Anatomy and Morphology of the Naso-Ethmoidal Region. (*Medizin. Jahrbücher der k. k. Gesellschaft der Aerzte*, Heft. iii, 1878.)

1. In a recent discussion in the Surgical Society of Paris, M. Anger communicated a case in which tracheotomy had been followed by immediate death from hæmorrhage. The operation had been rendered necessary by an abscess of the neck, produced by syphilitic ulceration of the larynx, and which pressed upon the windpipe. The tissues down to the trachea were divided by galvanocautery without any hæmorrhage; but at the moment when a bistoury was introduced into the trachea, a current of blood came from the wound. The necropsy showed that the posterior wall of the trachea had been divided.

2. The following were the laryngoscopic appearances seen by Dr. B. Baginsky in a case of croup. The

pharynx was congested; the mucous membrane swollen; no pseudo membranes. The epiglottis was somewhat congested; there was serous infiltration of the ary-epiglottic ligaments, the ventricular bands were blood-red, swollen, succulent, showing the highest degree of inflammation, and but here and there covered by a yellowish or white-greyish membrane. The true vocal cords were much swollen and congested. No membranes could be detected on them. The image of the glottis was as follows. The vocal cords touched each other on both commissures, leaving during inspiration but a small hole in the midst of the glottis between themselves. The arytenoid cartilages were immovable, touching each other. The mucous membrane on the inter-arytenoid fold, and round the crico-arytenoid articulation on both sides was swollen and succulent. The little patient, a boy *æt.* 4½, died, tracheotomy having been performed. The *post mortem* examination of the larynx showed the usual appearances. Baginsky explains the dyspnoea met with in croup in accordance with Bretonneau, Gerhard, etc., by the mechanical obstruction of the air-passages only, and does not believe in an actual paralysis of the abductors of the vocal cords, although they may be somewhat implicated in the morbid process.

3. There is a short annotation in the *Lancet* on a successful case of thyrotomy performed by Mr. Barlow for the removal of a gelatinous growth of large size, completely filling the larynx, and attached to the right vocal cord by two distinct pedicles. The voice was completely restored within two days.

5. In the debate following Dr. Berger's communication, in the Société de Chirurgie of Paris, the opinions as to the advisability of the use of galvanocautery for performing tracheotomy differed very much. It seemed, however, that the majority of those present were not disposed in its favour.

6. The author does not only recommend *temporary* inhalations of carbolic acid, but directs his patients to stay permanently in an otherwise well ventilated room in which frequently a 20 per cent. solution of carbolic acid has been dispersed by means of a spray. As many patients have a great dislike to the smell of carbolic acid, the author recommends the trial of benzoic acid in such cases.

9. At a meeting of the Königsberg Medical Society, Dr. Burow showed two patients with papillomatous growth on the vocal cords, whose cases are figured in his *Atlas* as No. 3 and 4. In one of these there has been a recurrence of the growth after the lapse of eleven years.

10. Campardon recommends tincture of myrrh, from 5 to 15 minims every hour, to be administered in a small dose of quinine-wine.

13. Incarceration of the epiglottis is a little-known factor in the mechanism of suffocation in fatal cases of spasm of the larynx. Dr. Cohen has observed two instances of this occurrence. While passing, during an attack of laryngismus stridulus, his finger deeply into the child's throat, he felt the epiglottis so forcibly drawn down by the spasmodic action of the aryteno-epiglottic muscles, that its free edge had become wedged between the posterior face of the larynx and the wall of the pharynx, occluding the larynx completely. The epiglottis was easily freed by the finger from its incarcerated position, but the child died some weeks later in a paroxysm similar to the one described. The second case was very similar to that just communicated. In undoubted cases of this kind tracheotomy may be absolutely indicated as

necessary to avert asphyxia in a recurring paroxysm of spasm.

14. The following is a summary of the conclusions to which this committee have come. 1. Membranous inflammation confined to, or chiefly affecting, the larynx and trachea, may arise from a variety of causes as follows. *a.* From the diphtheritic contagion. *b.* By means of foul water or foul air, or other agents, such as are commonly concerned in the generation or transmission of zymotic disease (though whether as mere carriers of contagion cannot be determined). *c.* As an accompaniment of measles, scarlatina, or typhoid—being associated with these diseases independently of any ascertainable exposure to the special diphtheritic infection. *d.* It is stated, on apparently conclusive evidence, although the committee have not had an opportunity in any instance of examining the membrane in question, that membranous inflammation of the larynx and trachea, may be produced by various accidental causes of irritation; the inhalation of hot water or steam, the contact of acids, the presence of a foreign body in the larynx, and a cut throat. 2. There is evidence in cases which have fallen under the observation of members of the committee, and are mentioned in the tables appended, that membranous affection of the larynx and trachea has shortly followed exposure to cold; but the knowledge of the individual cases is not sufficient to exclude the possible intervention, or co-existence of other causes. The majority of cases of croupal symptoms definitely traceable to cold, appear to be of the nature of laryngeal catarrh. 3. Membranous inflammation, chiefly of the larynx and trachea, to which the term "membranous croup" would commonly be applied, may be imparted by an influence, epidemic, or of other sort, which in other persons has produced a pharyngeal diphtheria. 4. And, conversely, a person suffering with membranous affection, chiefly of the air passages, such as may commonly be termed membranous croup, may communicate to another a membranous condition limited to the pharynx and tonsils, which will be commonly regarded as diphtheritic. It is thus seen, that the membranous affection of the larynx may arise in connection with common inflammation, or with specific disorders of several kinds, the most common of which in this relation is that which produces similar change elsewhere, and is recognised as diphtheria. In the larger number of cases of membranous affection of the larynx the cause is obscure (*i.e.*, in any given case it is difficult to predicate the particular cause in that case). Among those in which it is apparent, common irritation seldom presents itself as the source of disease; accidental injury is but very infrequently productive of it. But few cases of undoubted origin from exposure to cold are on record; on the other hand, in a very large number of cases, infective or zymotic influence is to be traced. The membrane, even when chiefly laryngeal, is more often than not associated with some extent of a similar change in the pharynx or in the tonsils, and whether we have regard to the construction of the membrane, or to the constitutional state as evinced by the presence of albumen in the urine, it is not practicable to show an absolute line of demarcation (save what depends upon the position of the membrane) between the pharyngeal and the laryngeal forms of the disease. The facts before the committee only warrant them in the view that, when it obviously occurs from a zymotic cause or distinct affection, and primarily affects the pharynx, constitutional depression is more marked, and albuminuria more often and more largely present;

though, in both conditions, some albumen in the urine is more frequently present than absent. The most marked division indicated by the facts before the committee is that between membranous and non-membranous laryngitis. The committee suggest that the term croup be henceforth used wholly as a clinical definition implying laryngeal obstruction, occurring with febrile symptoms in children. Thus, croup may be membranous or not membranous, due to diphtheria or not so. The term diphtheria is the anatomical definition of a zymotic disease, which may or may not be attended with croup. The committee propose that the term "membranous laryngitis" should be employed in the avoidance of confusion whenever the knowledge of the case is such as to allow its application.

16. Dr. Cory communicates the results found on eighty-four children suffering from whooping-cough, seen in St. Thomas's Hospital. There were thirty-two (14 per cent.) in whom the ulcer was present. The author adheres, like Dr. Maccall, to the theory of the mechanical origin of the ulcer.

19. Dr. Curtis prescribed, with successful results, five grains each of salicylic acid and chloride of potash in solution every two hours. The throat to be gargled the alternate hours with the same mixture, and twenty grains of dialysed iron to be given at the same time. Steam was turned into the sick room. The throat was painted with compound tincture of benzoin. Food and stimulants were given freely; if necessary, poultices, ice-bag to the throat, and tracheotomy, were employed.

21. This is a very full general review of the observations hitherto made concerning the etiology, pathology, symptoms and treatment of the necrosis of some or all laryngeal cartilages.

22. The history of the case is not communicated, and it is only said that the patient was finally saved by the ligature of the common carotid.

23. Two successful cases of tracheotomy in severe pharyngeal and laryngeal diphtheria and croup are recorded. The author recommends small and fenestrated canulas in children so young, in order not to irritate the mucous membrane, and to assist the breathing through the natural passages even before the canula can be withdrawn.

24. The author saw this ulcer in 25 per cent. of his cases, his observations being based upon 112 cases. He considers its origin to be probably a follicular one, and not due to the friction of the tongue against the teeth, although it may be enlarged by this occurrence. He regards its presence as a very valuable diagnostic symptom, inasmuch as it occurs in whooping-cough only, and may often determine the diagnosis at the onset of the disease.

25. In this paper the authors give a description of their examinations of the minute anatomy of the diphtheritic secretions, by which they have been led to the conclusion that the disease is due to the presence of specific exceedingly minute spores, capable of germinating into long fine bacilli when they reach a suitable medium, such as the mucous membrane of the throat. They are said to be decidedly different from micrococci, ordinary bacteria, leptothrix, filaments, and spirilla. Their propagation is possibly due to foul air from lower levels, escaping from the sewer manholes and carrying with it the spores or germs.

26. The operation was performed on a boy three years old, the isthmus of the thyroid gland was divided. On the fifth day the tube was temporarily, on the 20th day after the operation finally, removed.

Seven weeks later inspiratory stridor and impeded respiration supervened. The child died four months later suddenly, the symptoms having become much worse. The necropsy (Professor Roth) showed a polypoid proliferation of the mucous membrane close to the cicatrix, resulting from the operation, which was situated immediately below the vocal cords. The diameters of the growths were 8, 5, and 3 millimètres (0.32, 0.20, and 0.12 inch) in different directions. No reasons are given why a second tracheotomy was not performed.

27. This was a demonstration of a patient suffering from cauliflower growths along the left vocal cord, before the Glasgow Pathological and Clinical Society. The patient's voice was reduced to a whisper, but never broken or interrupted. There was no cough.

28. Dr. Foulis describes the successful extirpation of a round-celled sarcoma, firmly sessile in the right half of the soft palate, extending upwards and outwards, with a prolongation downwards into the right tonsil. Laryngotomy having been performed at the height of the crico-thyroid membrane, and a cannula tied in here, a sponge was pushed into the upper end of the larynx from the mouth, thus effectually plugging the larynx. Then the cheek was cut open from the right angle of the mouth to the right angle of the lower jaw, the jawbone was divided at the angle with a saw, the right lingual nerve was cut across and the tumour then carefully dissected out. Some bleeding vessels were secured at once; the sponge-plug was removed from the larynx; the two rami of the jaw were brought together by two silver-wire sutures; the cheek was closely sewn up; the tracheal tube was withdrawn, and about one half of the laryngeal incision was sewn together, the other half being left open to allow the air to escape and to obviate emphysema. There was perfect recovery, the cicatrix five months later not being conspicuous, and no sign of reappearance of the growth being present seven months afterwards. A twig or two of the facial nerve appear to have been severed, for just below the right angle of the mouth a triangular patch of skin has lost sensibility. The tongue seems to have but little suffered from the division of the right lingual nerve. Its right half is a trifle thinner than the left, and the patient feels it a little cold at times, etc., but there is no material injury to be observed. Similar incisions will have to be made for the ligature of a wounded carotid, laryngotomy having been previously performed and the larynx having been plugged.

29. The patient was a boy, aged 12. He had in the evening attacks of cough, lasting from half to one hour, whilst at the same time unmeaning words were uttered. The latter began almost always with the letter "H" and were alliterative ("Hö, Ho, Hinge Henge", etc.). During the attacks there was frequent sneezing, up to a hundred times consecutively. No hoarseness, no change of temperature or of pulse. Shortly after the beginning of the disease there was rapidly increasing myopia of the right eye, with pain in and behind the same, the left eye remaining free. At the onset of the disease the symptoms could not be provoked by reflectory irritation; later on, however, any external irritament was sufficient to produce them. After some time the attacks were followed by general convulsions, hallucinations, and coma. Morphia, bromide of potassium, local applications to the larynx, and quinine, had no effect. All the symptoms, however, disappeared gradually and spontaneously after seven or eight months' duration, and there remained

only a barking cough. Dr. Geissler did not believe that there was any simulation, nor did Professor Wagner of Leipzig, who called the disease a "rare form of hysteria puerorum", but grave doubts were expressed in this respect at the meeting of the Medical Society of Dresden, where Dr. Geissler's paper was read. (See No. 101 of this Report).

30. Having compared the different views of Sauvages, König, Fränkel, Michel, Zaufal, and Jacobi, regarding the etiology of this affection, the author states his own ideas. He recognises the often observed coincidence of anomalous capacity of the nasal cavity with the occurrence of the disease; but he does not look upon this fact as being an important etiological factor for its origin. He considers the latter due to a process of atrophy in the mucous membrane of the part, analogous to that in the pharynx, described as rareficient dry catarrh of the pharynx (pharyngitis sicca) by Wendt in *Ziemssen's Cyclopadia*, and he believes that ozæna is "a constant symptom of that stage of chronic rhinitis, in which atrophy of the nasal mucous membrane has occurred, and in which, probably in consequence of the destruction of mucous glands, a diminution and alteration of the secretion takes place in such a way, that the product of the latter remains, in consequence of its quick drying up, adherent to the mucous membrane, is not removed by the natural forces, and passes over into fœtid decomposition". The remedy which the author recommends, consists in the simple occlusion of the diseased part by means of a wad-tampon (the part having generally been cleaned before), which is to remain about twenty-four hours in the nose. It does not give rise to any troublesome symptoms, the patients feeling, on the contrary, soon very much relieved by it. One side ought to be occluded only at the time, and the other within the next twenty-four hours, whilst the first remains free during that time. The author has obtained excellent results on fifteen patients thus treated within a very short time.

31. In a paper recently read on this subject in the Congress of the French Association for the Progress of Science, and in a paper in the *Gazette Hebdomad.*, Gougenheim comes to the following conclusions: 1. The infiltration of the ary-epiglottic folds (œdema glottidis proprium) is most frequently a pathological error (?). 2. To attribute to the engorgement of these folds or of the interior of the larynx, the terrible symptoms of œdema glottidis is by no means justifiable. 3. In the production of these symptoms, the compression of nerve fibres plays probably the most important rôle. 4. Scarifications and similar methods to which have been had recourse up to the present, because the symptoms of paralysis of the posterior crico-arytenoid muscles have wrongly been attributed to œdema glottidis, are dangerous and useless methods. Topical applications may be allowed in cases of hyperplastic changes and in tuberculous laryngitis, but they are absolutely contraindicated in cases of respiratory trouble. These being due to paralysis of the abductors, not to œdema glottidis, tracheotomy gives the only chance of a successful result (?).

34. Having given a short history of the attempts at mechanical treatment of laryngeal stenoses, and a description of methods and instruments used for this purpose, the author describes a case in which hollow, triangularly-shaped, hard caoutchouc tubes (such as those invented and used by Schrötter for gradual dilatation of chronic laryngeal stenoses) were for the first time successfully employed in an *acute* laryngeal affection, viz., in œdema glottidis. The false vocal

cords being in this case so much swollen that they not only touched, but even partially covered, each other, the author managed in spite of the patient's urgent dyspnœa to introduce one of these tubes, which remained in the patient's larynx, without causing much local discomfort, and enabling him at the same time to breathe freely. By gradually introducing larger tubes, the serous effusion into the ventricular bands was pressed away and the patient cured within two days. The author strongly recommends, in consequence of this excellent result, the trial of this method, which will, he thinks, often not only replace successfully tracheotomy, but even *cure* the original disease in cases of: 1, œdema glottidis; 2, abscess of the larynx, either of primary origin or resulting from perichondritis; 3, hæmorrhage into the submucous tissue of the larynx; 4, fracture of the laryngeal cartilages; 5, spasm of the larynx; 6, paralysis of the posterior crico-arytenoid muscles. On the other hand, he is not much in favour of the catheterism of the larynx in cases of croup, not only because former attempts in this direction have ended very unluckily (Bouchut), but especially because it is not possible to introduce the laryngoscope in by far the greater majority of children suffering from that disease, and because the author is "*a priori, preoccupied against any instrumental interference within the larynx without the most careful control by means of the laryngoscope*" [We share completely in this principle of Dr. Hack's.—*Rep.*]

35. This is a case of acneiform cutaneous eruption following primary chancre of tonsil.

36. This is a very excellent and most industrious monograph, intended to contribute to the solution of the question, whether *tuberculosis* of the mucous membrane of the larynx and trachea is identical with *consumption* of these parts, or whether the latter disease is but a consequence and further development of catarrhal and inflammatory processes within the air-passages. To decide this question, the author has made very careful statistics, and very accurate microscopical examinations of a large number of specimens of this disease, his observations being based upon not less than 475 cases, which were dissected in the P.M. room of the University of Leipzig within a period of nine years. He begins by contrasting the views of *all* authorities on the question, who differ wonderfully in their opinions from each other, and then passes over to his own observations. Space unfortunately does not allow us to quote more than a few of the important results he has obtained, but we take this opportunity to recommend strongly the perusal of the pamphlet to all readers interested in the question. Amongst the most important conclusions, in a statistical point of view, are the following:—Ulcerations within the larynx were observed in 30.6 per cent., within the trachea in 8.0 per cent. of all the cases of phthisis observed. Men are more frequently attacked than women. Ulcerations within the larynx are *very* rare in other diseases than in phthisis (syphilis, diphtheria, croup excepted). The organs most frequently affected besides the lungs in pulmonary phthisis are the intestines (51.3 per cent.), after that the larynx (30.6 per cent.). Ulcerations of larynx and trachea in pulmonary phthisis are most frequently met with in patients between 21 and 30 years of age. They are extremely rare in childhood. There is no certain predisposition to *laryngeal* phthisis in consequence of the patient's occupation; but as a rule, those classes fall ill most frequently with laryngeal affection who are also mostly predisposed for *pulmonary* phthisis.—The

next part is devoted to the Pathology of the disease :—*In 94 per cent. of all the cases examined, there were either tubercular processes in larynx and trachea simultaneously, or in either of them alone; in 60 only the tubercular origin of the ulcer could not be demonstrated.* Tubercular infiltration was met with in 52.5 per cent. of all cases examined (most frequently on the ventricular bands and ary-epiglottic folds, further—in descending line—on the mucous membrane of the arytenoid cartilages, vocal cords, epiglottis). Tubercular ulcers were found most frequently on the vocal cords (in 81 per cent.); further—in descending line—on the epiglottis (in 53 per cent.); in the trachea (also in 53 per cent.); on the arytenoid cartilages (in 46.9 per cent.); on the ventricular bands (in 28.5 per cent.); in Morgagni's ventricles, and on the inner surface of the cricoid cartilage (in 24 per cent. together). There is no connection between these ulcers and cavities in the lungs. Next, the microscopical changes, into the description of which we cannot enter here are considered (the illustrations which accompany the description are very instructive); and finally, Heinze comes to the conclusion, that although there *may* be found *non-tubercular* ulcers in cases of pulmonary phthisis, their existence is quite accidental and unimportant, whilst the *large destructions of the larynx, which hitherto have been called with the common name of "laryngeal consumption", are exclusively due to tuberculosis of the mucous membrane of the larynx.* In the last chapter, which treats of the Pathogenesis and Etiology of the disease, the author comes to the following conclusions: 1. A *primary* tuberculosis of the larynx most probably does not exist. 2. It is *not* possible to conclude from the laryngoscopic appearance of an ulcer *alone*, whether its nature is tubercular or not. 3. A *cure* of the laryngeal tuberculosis will most probably never be obtained. With regard to No. 2, he says, however, that (a) the situation of the ulcers on the epiglottis, ventricular bands, in the ventricles, etc., (b) the *simultaneous* existence of ulcers on *several* of these places, (c) the *intensity, depth, and extension* of the ulceration, (d) its *duration and incurability*, will often permit us to diagnose *with a great deal of probability*, the tubercular nature of the process, without having recourse to examination of the lungs, etc.

37. Dr. Heymann considers the symptom—close approximation of the false vocal cords when phonation is intended—to be possibly due to spasmodic contraction of the muscular fibres which are contained in these folds of mucous membrane. Thus the symptom would be somewhat analogous to writers' cramp.

38. In a case of Mr. Howse's, in Guy's Hospital, spasm of the glottis set in on two different occasions; once when chloroform, a few days later when ether was administered before performing an operation for stricture of the urethra. Already, on the first occasion, tracheotomy became necessary in order to save the patient's life, all other methods having failed. The spasm returned when, a few days later, ether was administered; but again the opening in the trachea permitted the keeping up of respiration until the spasm disappeared.

39. In a very interesting and complete lecture on this subject, Dr. Johnson collects some remarkable cases which have occurred in his own practice and in that of other medical men, and in which foreign bodies have entered the pharynx, œsophagus, larynx, trachea, and bronchi. He describes very accurately the symptoms which might be observed, and the

different treatment to be adopted in different cases. He urges the use, whenever possible, of the laryngoscope, and quotes some good instances, showing that its use in some cases in which it was omitted would doubtless have been very beneficial. The final remark, that when an attempt is made at dislodging a foreign body from the trachea and bronchi, the patient's head ought to be placed downwards, and the patient should be directed to take, just at the moment of the inversion, a *deep inspiration*, is of great practical importance.

40. The first of these two cases was an instance of complete paralysis of the right recurrent, and of paresis of the left recurrent nerve, in consequence of aneurism of the aorta and of the anonyma. The second was a case of *bilateral* paralysis of the recurrent nerve (the *third* ever put on record), due, as the author believes, to a simple laryngeal catarrh (?).

41. The obliteration was a consequence of the cicatrization of scrofulous ulcers, and was characterised by the destruction of the lower halves of the anterior pillars of the fauces, the upper halves being adherent to the posterior wall of the pharynx, and the uvula being completely destroyed.

42. The author illustrates by some very instructive cases, the dangers of performing the usual high or crico-tracheotomy in cases of typhoid fever, in which the artificial opening of the air-passages has been rendered necessary. He attributes the bad results (sudden death during the operation, etc.), to the involuntary opening of perichondrial abscesses during the course of the operation, and recommends most urgently, in spite of its discomfort for the surgeon, the *slow* performance of *low* tracheotomy. As to the constriction of the larynx following so frequently the secondary perichondritis, the author recommends the trial of Schrötter's method of dilatation, without, however, expecting very satisfactory results.

43. Nicaise, bringing forward a case of Krishaber's, asserts, that it is easy to place a cannula in the interspace between the cricoid and thyroid cartilages, it having a size of 9-11 millimètres in the man, and 8-10 millimètres in the woman.

44. Unfortunately want of space forbids to give here more than the following conclusions, drawn by the indefatigable author from a long series of most instructive cases, which are set forth, after a truly excellent clinical lecture on the etiology, the pathology, the dangers and the treatment of the respiratory troubles in the different stages of syphilis: 1. The syphilitic laryngostenoses show themselves at the most varying periods after infection. 2. Their late appearance is not always, but most frequently, a proof of the presence of an advanced stage of syphilis. The lesions which produce laryngostenosis in syphilis are different, according to the sudden or slow appearance of respiratory troubles. 3. The sudden narrowing is almost always due to œdema, which accompanies the different specific manifestations; the slow narrowing is most frequently the consequence of a hypertrophic or luxuriant inflammation; sometimes it is due to cicatricial narrowing, and least frequently to the formation of an osseous tumour. 4. The respiratory accidents are the graver, the closer the causating lesions are found to the tracheal region. Tracheal lesions themselves are most frequently fatal. 5. The slow form of syphilitic laryngostenosis may be complicated by œdema and suddenly take an acute course. This complication, however, is not frequent. 6. The acute form of syphilitic laryngostenosis may be successfully and quickly fought by specific treatment, and surgical intervention may be

avoided even in cases of apparently imminent asphyxia. 8. The specific treatment must exhibit from the beginning very high doses, and must be continued in gradually diminishing intensity, even after the cessation of the respiratory troubles, in order to avoid recurrences. 9. The slow form gives way to the treatment the more reluctantly, the more insidious and prolonged has been its invasion. 10. The slow narrowing is arrested sometimes spontaneously, and tracheotomy is then not called for; this narrowing, however, never undergoes a spontaneous regressive metamorphosis. 11. If there be, in consequence of cicatricial narrowing, any tendency to obliteration of the larynx, this will take place, whatever might be done; the opening of the air-passages, and the uninterrupted wearing of the cannula, are imperiously demanded in this case. 12. The results of the mechanical dilatation of the larynx have not yet received their consecration by time. 13. The syphilitic vegetations of the larynx may be destroyed or removed like other non-specific laryngeal growths. 14. The differential diagnosis between simple and syphilitic vegetations is rather easy; but there are difficulties regarding the differential diagnosis of syphilitic, tuberculous, and carcinomatous neoplasms. 15. In all forms of syphilitic stenosis, cough is rare, and pain little marked. 16. The conservation of the voice is compatible with the gravity of the evil. 17. Except the case of growth, the local treatment of syphilitic laryngostenosis is useless. 18. In the overwhelming majority of cases, the choice of treatment is to be made between specific medication and tracheotomy (or laryngotomy). In certain cases both methods will find their employment. These are the important conclusions of Krishaber's paper. The reporter is willing to subscribe all of them in their entirety.

45. The patient was an Englishman, aged 55, living at Rome. The goitre was multilobular, mostly developed on the left side; it had grown very quickly, and caused dyspnoea as soon as two months after its appearance. It compressed the lower part of the windpipe, the larynx being intact. External application of mercury, and iodide of potassium internally, having proved useless, and the respiratory trouble having attained very alarming degrees, suddenly an abscess, which had been formed within the goitre, burst into the trachea, and caused extreme dyspnoea. Krishaber at once cut with the thermocautery through the goitre and the crico-thyroid membrane, without losing a drop of blood, and, as even his longest tracheal tube was not sufficiently long to pass through the compressed part, he withdrew its *inner* tube and inserted an œsophageal tube *through* the outer cannula. This was accompanied by considerable difficulty, but when he finally had succeeded to pass it through the narrowed space, immediately a torrent of slightly sanguinolent pus flowed out through it, and the impeded respiration became free at once. There was no subsequent hæmorrhage nor any other serious sequela of the operation, the fever was not very considerable, but odynphagia persisted. Gradually larger œsophageal tubes were introduced, and the patient feels now comparatively comfortable. Krishaber intends, however, to restore, if possible, the normal respiration by the natural passages.

46. Krishaber recommends us to spare, if tracheotomy be necessary in the horse, the tracheal rings, and to open simply the crico-tracheal membrane, which is sufficiently large to admit any tube. This presents, he says, moreover, the advantage that the ascending branch of the tube passes through the

glottis and establishes a direct communication between the nose and the trachea. The tracheotomical opening could then be safely closed temporarily. (It must be borne in mind that the tracheal tubes used for horses have an ascending and a descending branch.)

47. The patient was affected, six years after the primary infection, with a swelling of the cricoid cartilage, which, having existed for some years, came into a state of softening, burst, and gave exit to a permanent sero-purulent secretion. The tumour then became smaller. Sometimes the fistulous tract was obstructed, and especially at these times respiration was impeded, and the voice nearly completely aphonic. Seven years after the first appearance of the tumour the secretion became very foetid, and two spongy pieces, probably belonging to the cricoid cartilage, were evacuated from the fistula. The tumour, which had lost in size at this period, became larger again a year later, and the patient then for the first time consulted a physician. The diagnosis of an ulcerated gumma, with necrosis of the cricoid cartilage was given, and the patient underwent with satisfactory results a specific treatment. The tumour, however, reappeared in the next year. It was ascertained that the fistulous tract entered at the left side into the substance of the cricoid cartilage, which had undergone a sponge-like change and was covered by numerous unequal elevations; at the right the thyroid cartilage was for some space laid open. There was lancinating pain at the height of the cricoid cartilage, which was not augmented by pressure. On palpation, a roughness in the movements of the thyroid on the cricoid cartilage, and a notable depression of the latter were ascertained. The laryngoscopic examination showed numerous traces of old syphilitic affections in the mouth and in the pharynx, diffuse congestion of the larynx, slight swelling of the ventricular bands, somewhat incomplete separation of the true vocal cords in deep inspiration, and a constriction of the mucous membrane immediately below the latter in the lateral diameter, the antero-posterior being normal. The mucous membrane at this spot was folded and maintained by cicatricial checks, which project considerably. The trachea apparently normal. The patient having been submitted to specific treatment, the fistula closed and he was dismissed in a satisfactory state.

49. In this eminently industrious and thorough monograph, the results of a long series of researches are described, converted by Dr. Ludwig Loewe of Berlin into the general and minute anatomy of the nose and of the oral cavity. It is to be regretted, that for various reasons, stated in the introduction, the author's examination could not be conducted on the human subject, but on a rabbit, as his great ability and industry would certainly have been in a higher degree rewarded, if his conclusions could have been directly traced from the human mouth and nose. But even in their present form, the clear and lucid description of his own opinions, the impartial reports of the different views of other authors, and the numerous interesting physiological remarks, secure a foremost place for the modestly written short explanations of the author, whilst the splendid photo-chromic illustrations, which are taken without exception from very excellent sections, form another greatly attractive feature of the work.

50. In this admirable essay the author gives a most perfect and complete outline of the anatomy, histology, pathology, symptomatology, diagnosis,

differential diagnosis, and treatment of these tumours. It appears that they are much more frequent in France than in England and Germany; if not, as the author remarks, the symptoms of auditory, respiratory, and phonatory troubles so often observed in cases of excessive hypertrophy of the tonsils, and attributed to them, are in reality due to the co-existence of these tumours. [The reporter, who has paid for some time a great deal of attention to this question, would be inclined to answer this in the negative, *i.e.*, to consider the frequency of occurrence in this country as very limited.] The only therapeutical measure to be adopted is removal of the tumour by cauterisation or by ablation. For either method excellent directions are given. This is the most complete essay ever written on the subject, and with the above slight exception the reporter willingly accepts all its conclusions.

51. Here we have the ulcer in about 44 per cent. of the observed 252 cases, mostly in front of the frænum. The author thinks it, in opposition to Drs. Morton and Elliott, due to the frænum becoming stretched and rubbed in a slightly sawing manner upon the lower incisors. By the frequent repetition of the attacks, in this way ulceration is finally produced. The symptom is considered pathognomic by the author.

52. At the meeting of German naturalists at Cassel, Dr. Mannel, of Bremen, showed a boy, aged 12, suffering from spondylarthrocace of the cervical vertebrae, on whom by pressure on the left superior laryngeal nerve a spasmodic attack within the larynx, similar to whooping cough, could easily be produced. As there was complete integrity of all the parts of the larynx, Dr. Manuel attributed the symptom to irritation of that nerve produced by the bone disease.

54. Dr. Martin, of Boston, introduces a central stitch in each edge of the tracheotomical wound, through the tissues, including the trachea; this is loosely tied, so as to form a loop, through which a long strip of adhesive plaster is passed, upon which very slight traction is made, the plaster being crossed at the back of the neck. Unless the traction be too strong, the loops will not cut through for two or three weeks; but he had generally been able to remove them in one week. The wounds heal readily. The method has been perfectly satisfactory in nine cases.

55. In a paper read before the laryngoscopic section of the Associazione Medica Italiana at Pisa the author recommends strongly the exhibition of topical applications in cases of mucous patches or of syphilitic erythema of the larynx. The meeting, which comprised most of the eminent Italian laryngoscopists, shared in his views.

56. Spontaneous evacuation of a bone from one of the larger bronchi after four months.

57. In a paper read before the Medical Society of Cologne, the author enumerates the different diseases which may lead to dysphagia, mentioning especially the herpetic inflammation of the pharynx and larynx (which leads to the formation of numerous yellowish vesicles on the surface of the swollen and congested mucous membrane of these parts), and the acute oedema of the anterior surface of the epiglottis, which he "calls angina epiglottica anterior." He thinks that this affection might be sometimes mistaken for croup, as the symptoms would be in both instances very much alike.

58. A large sharp bone, which had entered the trachea of an adult, while eating soup, was removed

in the following way. The man was directed to kneel on a sofa, to let his head and the upper part of his body hang down, and to rest with his hands on the floor. In making some jumping movements in this position, the foreign body was evacuated, with cough and retching. The sputum was afterwards mixed with blood. This proved that the bone had really been in the windpipe, although the laryngoscopic examination had failed to discover it. A similar case was communicated by Dr. Handelin.

59. "The superior laryngeal nerves are of great importance in protecting the air passages from foreign bodies, especially in the act of deglutition. It is the exclusive nerve of sensation to the mucous membrane of the epiglottis and the upper part of the larynx down as far as the true vocal cords. Thus we see, from the distribution of these sensory branches, that if the superior laryngeals are paralysed or divided, a small quantity of food, especially if it be passed from the mouth through the faucial isthmus, across the base of the tongue, *is not felt by the epiglottis and top of the larynx*, therefore reflex closure does not follow, as in the natural act of deglutition, and portions of food are drawn into the larynx. I say 'drawn into the larynx', for with the normal movements of deglutition there is always arrest of the action of the diaphragm; therefore inspiration is delayed. Now if any substance be arrested in the pharynx with the glottis open and the diaphragm in action, the air passages are endangered."

Further, speaking of the recurrent laryngeal nerves, the author says: "If injury to these nerves, or pressure upon them is sufficient to destroy their integrity or paralyse them, the destruction of voice and impairment of respiration will be constant; but, if only sufficient to produce hyperæsthesia, the voice and respiration are paroxysmally affected. This differentiation would seem of practical interest surgically, for if the nerve is intact, it may be advisable to undertake to relieve it by operative means. I am not aware that this suggestion has ever been acted upon, and as far as I know it is new with me." [This is scarcely new. It is a well known fact that aneurisms, mediastinal tumours, neoplasms, etc., which press upon the recurrent laryngeal, produce at first generally only an *irritation* of the nerve, manifested by intermittent or gradual weakness or loss of voice, and only in later stages lead to total destruction of its integrity. The laryngoscope will in such cases give full evidence as to the power of the morbid action.—*Rep.*] The little article is very interesting and well worth reading.

60. The author, formerly assistant of the late Professor Bartels in Kiel, communicates in the beginning of his article the experiences which were made at the clinic of Kiel up to 1878, by a treatment of diphtheria consisting of the application of ice internally and externally, chlorate of potash (5 per cent. solution internally every hour, one tablespoonful, and as a gargle), inflations of tannin or alumen, application of solutions of bromide of potash, inunctions of the neck with unguent. Hydrarg. ciner. (every hour gr. 40 to 50 up to as much as 3 ij. *pro die*!) when there were any symptoms of incipient stenosis of the larynx, and tracheotomy when symptoms of asphyxia set in. He warns earnestly against inunctions, showing that mercury has no effect upon the disease, but often leads to dangerous complications, such as hæmorrhage from the nose, the intestines, the skin, stomatitis, etc. Having given a statistical table of the tracheotomical results in children below

twelve years (83 cases—66 deaths, 17 cures) he proceeds to the recommendation of inhalations through the tube after tracheotomy, and of simple catheterism of the trachea, if hard inspissated or gelatinous masses are to be removed from this part. He does not expect too much of the inhalations, which he considers agreeable to the patient and to the physician, because they prevent the diphtheritic membranes from becoming inspissated and firmly adherent to the walls of the trachea. But he does not believe that they can impede the invasion of the bronchi by the morbid process, nor does he attribute any specific value to the medicaments recommended in the form of sprays for inhalation, such as salicylic acid, lime water, borax, turpentine oil, etc. [Lactic acid does not appear to be tried.—*Rep.*] He generally uses a 1 per cent. solution of chloride of sodium, because this is the simplest and cheapest, and because he attributes the main value to the hot water vapours. As to the use of the solid catheter, the author considers the same quite as effective, if not more, than the aspiration of the diphtheritic membranes through the hollow catheter by the practitioner's mouth, as recommended by Hueter and Pauly. The danger of auto-infection is much greater according to him, than it is supposed by these authors. (Professor Bartels infected himself in this way.) Müller introduces, in cases of inspissated secretion in the lower part of the trachea, a solid catheter through the tracheotomical wound as far down as to the bifurcation of the trachea, twirls it a few times, and withdraws it quickly. The inspissated masses are said to be either removed immediately, attached to the catheter, or subsequently by an attack of cough. Good results have been obtained by the author, who never saw an evil consequence of the method, which can easily be learned by nurses. As an external application to prevent diphtheritic infection of the tracheotomical wound balsamum Peruvian is highly recommended. The surface of the wound is to be covered with this remedy several times daily; if discoloration begins, iodoform in powder ought to be applied to the surface. The tube ought to be removed as soon as possible. Such are the conclusions to be drawn from the paper, which tells us by the way that the late Bartels was one of the most decided partizans of the identity of croup and diphtheria.

62. In the case mentioned by Schreiber (see No. 81 of this report), Professor Naunyn having observed that the stridulous breathing ceased when the patient made *voluntarily* some deep inspirations, availed himself of this discovery by instituting a kind of gymnastical treatment of the affected muscles, consisting in methodical deep inspirations. He states that this treatment was accompanied by perfect success.

63. Neubert recommends hourly (later on every two hours) inhalations of the salicylate of soda (1 per cent. solution).

65. A bottle of liq. ammon. was held to the nose of a girl, aged 19, who had become faint, her mouth being open at the time. She suddenly jerked her head. It was supposed that some of the ammonia had been swallowed. Great dyspnoea; stridor of harsh "brassy" character. Much oedema of velum and uvula. Laryngoscopic examination utterly impracticable. No deficient lung action could be detected. Within three days the urgent symptoms yielded to suitable treatment, including inhalations.

68. At a recent meeting of the Clinical Society of London, Sir James Paget read notes of a somewhat

mysterious case of watery discharge from the left nostril of a patient, aged 49. The fluid, several ounces per diem in quantity, had been dropping for eighteen months. It looked like pure water or that of the pia mater, or that from an acephalocyst. General health good, no local disease of the nose. Two years ago the patient received a heavy blow over the left frontal sinus, but this seemed to have done no harm at the time. Six months later the dropping began, and has continued with rare intermissions up to this day. By mental exertion the quantity is increased. The fluid is slightly alkaline, and contains proteid matter, probably albumen, chloride of sodium, phosphates, and a slight trace of iron but no grape sugar. Specific gravity = 1004 to 1010. Sir James Paget expressed finally, though speaking with much doubt, his opinion that the fluid was derived either from a frontal or ethmoidal sinus, or from the subarachnoid space, or the sac of the arachnoid membrane. The case seems to be unique as appeared from the subsequent debate.

69. In this very thorough and successful *résumé* of the modern views regarding tracheotomy in membranous laryngitis, which have been practically corroborated by the author's own extensive practice, and his very successful therapeutical results, he comes to the following conclusions. 1. Tracheotomy ought to be performed in membranous laryngitis as soon as there is recession of the chest walls. The higher operation is preferred as the more easy in children. Chloroform may be safely administered. 2. In *every* case the trachea and glottis ought to be *thoroughly* cleared of *all* foreign matters, whether membranous or mucous, *before* the introduction of the tube, and *frequently* after that. 3. The *largest-sized* tube ought to be employed which can be got into the trachea without actual violence. Its tracheal part ought to be freely movable. 4. The curve of the tube ought to be made in the form of a quarter circle (resembling more a Gothic than a Roman arch), for those generally in use impinge almost necessarily on the anterior wall of the trachea, and may lead there easily to ulcerations. More mischief is done, in the author's opinion, by "ill-fitting" than by "rigid" tubes, but Marrant Baker's flexible tubes are not directly opposed. 5. Besides the frequent *mechanical* clearing after the operation, which is again *most distinctly* demanded, *steam* is to be employed for this purpose, to which solvent, astringent, antiseptic remedies (creasote, carbolic acid, benzoine, soda, etc.) may be added with advantage. The paper concludes thus, "The presence of membrane in the trachea in a fatal case of membranous laryngitis after tracheotomy must be regarded as evidence of the want of due care on the part of the surgeon in charge (?), just as much as would the presence of a piece of gut in the inguinal canal after herniotomy, or a calculus in the bladder after the operation of lithotomy." [Although the reporter completely agrees in all the points mentioned with Mr. Parker, he considers this dictum *much* too absolute.]

70. The author believes that laryngeal alterations in hereditary syphilis are much less frequent in young children than in adults, and that they consist either in simple erosions or in true ulceration.

71. In the course of a discussion on the probable effects of palliative operations in cases of carcinoma, the author urgently advises the *early* performance of tracheotomy in cases of laryngeal cancer.

72. Pinder describes an affection of the posterior wall of the pharynx, to be found in scurvy, consisting

in miliary excrescences on the pale surface of the mucous membrane, and originating often even before the gums are affected. Their main extension is a longitudinal one, their colour generally lighter than that of the surrounding parts, but sometimes darker. There might be hæmorrhage, with subsequent destruction of these granulations, but these symptoms are found in the worst cases only. As a rule the granulations are soon covered by yellowish incrustations, which may unite and form large *plaques*. In another form there is a more diffuse eruption of very small excrescences, and the mucous membrane appears as if covered by a yellow varnish. In the above-mentioned rare hæmorrhagic cases the excrescences change into scorbutic ulcers, readily to be recognised by the sanguinolent infiltration of their borders and the similar base. In such cases there is almost always odynphagia. The pharyngeal affection was present in 69 per cent. of the author's observations, the total number of cases of scurvy being forty-two. The treatment is analogous to that of scurvy of the gums, only the scorbutic ulcers demand local application of nitrate of silver.

73. Lecture dealing especially with the differential diagnosis of the following forms of angina, viz., the herpetic, the pultaceous, the ulcerous, membranous, and the diphtheritic.

74. The reason for demonstrating the case in the Medical Society of Cologne was the unusually advanced age. No instance has been recorded before of the disease occurring at so late a period. It was a case of carcinoma of the epiglottis, and the patient having died soon after, he was shown the specimen at a subsequent meeting.

75. The slight paralysis of the adductors of the vocal cords, as seen in a case of atrophy of the face (probably without muscular degeneration), is attributed by the author himself to an accidental coincidence, as the laryngeal affection improved under treatment. Moreover, the nerve connection of the facial in its course, with the pneumogastric, cannot explain any propagation of diseased structure from the periphery towards the nervous centres.

77. The committee come to the decided conclusion, that the ulceration of the frænum linguæ in whooping cough is *exclusively* due to *mechanical* influences.

80. This is the continuation of Professor Schnitzler's excellent lectures on laryngoscopy and rhinoscopy. The present paper contains two lectures on the laryngoscopic and rhinoscopic images.

81. Dr. Schreiber mentioned in the Königsberg Medical Society, *à propos* of the discussion on Meschede's case, which was successfully treated by subcutaneous injections of strychnia, that in a similar case of Professor Naunyn's a relapse had occurred four months later, but that the patient was now able to breathe without dyspnœa, if he either inspired very *deeply* voluntarily, or if compressed air was inspired.

82. In a patient aged 52, numerous papillomatous growths on the right wall of the larynx, and on both true vocal cords were detected, whilst the entire trachea, from the third ring downwards, was *completely* filled by cauliflower-like papillomata. There was of course great dyspnœa, but the lumen of the trachea was so completely obstructed that it seemed very astonishing that the man could breathe at all. The laryngeal neoplasms were crushed by a squeezing forceps, the tracheal by up and down movements of a caoutchouc bougie, the surface of which was rough like that of a rasp. Thus the papillomata were torn off and coughed out at once by the patient. Cure was effected after this procedure had been re-

peated seven times. Four months later, recurrence of the tracheal neoplasm set in, the larynx, with the exception of some small vegetations on the vocal cords, being free. The nature of the growth is again that of benign neoplasm. Professor Schrötter intends to proceed in the same way as before. If there be, however, again recurrence, the trachea will be laid open, the neoplasm removed and its bases cauterised.

84. This case, which was read at a recent meeting of the Medical and Chirurgical Society, was as follows:—The patient had attempted to cut his throat, and tracheotomy had to be performed afterwards. The voice gradually disappeared, and laryngoscopically a tough dense membrane was found occluding the larynx between the false vocal cords, with evidence of ankylosis of the left arytenoid cartilage. The operation was undertaken to remove this membrane. It was the third case on record in which thyrotomy had been practised for such a purpose. A modification of Trendelenburg's tampon-cannula, which was used on this occasion, had been constructed in consequence of some disadvantages of the original instrument. It was urged that great caution should be observed in the administration of chloroform through the tampon-tube, the liability to asphyxia being greater than when inhaled in the ordinary way. The original intention to leave the upper part of the thyroid cartilage uninjured in order to save the anterior commissure of the vocal cords and to facilitate subsequent apposition of the parts, could not be adhered to. A second membrane at the level of the original suicidal wound was detected in the larynx after the division of the thyroid cartilage. It had to be concluded, therefore, that the upper membrane, seen with the laryngoscope, was of a secondary nature, and probably due to agglutination of the false vocal cords. It was suggested to make in similar cases an examination through the tracheotomy wound, to ascertain the presence of other membranes. The lower and primary membrane was being excised with a pair of curved scissors, when the patient began to cough violently. It was thought that the tampon-cannula did not sufficiently occlude the larynx, and that perhaps blood had entered the bronchi. In re-inflating the tampon the cough was replaced by an intense asthmatic paroxysm marked by extreme dyspnœa, the inspiration being still more impeded than the expiration. No obstruction was found in the tube. On partial evacuation of the tampon bag, the dyspnœa ceased at once, showing, as was ventured to suggest, *that an excess even of equal pressure on the inner walls of the trachea suffices to produce a reflex spasm of the pneumogastric nerve, manifested by an attack of dyspnœa.* The cough, on the other hand, was in corroboration of Stoerk's statement, that the posterior wall of the larynx, and especially the inter-arytænoid fold, excite cough when touched, whilst the anterior and lateral walls of the larynx are not so irritable. The wound healed by primary union, but in spite of daily repeated and long continued passage of bougies through the mouth there was gradual cicatricial stenosis of the larynx, and a month after the operation no air passed through the mouth. [The case shows some other features of laryngological interest, but has been curtailed here as much as possible, in order not to demand an undue space in this report. A full account, and the description of the modified tampon-cannula, will be found in next year's *Medico-Chirurgical Transactions*.]

85. The second and third diagrams have by a printer's mistake been permuted.

86. The author recommends apomorphia as an ex-

pectorant, in doses of one-sixth to half grain every hour (one to one and one-third grains *pro die*) in cases of croup and acute laryngitis.

87. In the *Feuilleton* of the *Berl. Klin. Wochenschrift*, some very critical and, at the same time, remarkable observations are postulated by Dr. Starcke, who went to Italy last year as a patient. They refer to the advisability of sending patients thither suffering from affections of the upper air passages. Space does not allow us to enter into the very interesting details concerning climate, temperature, accommodations, comfort of the patients, etc., but those who will look into the original will most probably modify considerably their views in many respects. Here the question of a winter's stay at Montreux, or at one of the places of the Riviera, assumes quite another aspect than that which it presents in the numerous monographs on the excellence of each of these places. The perusal of the few pages is highly to be recommended.

88. The author describes a case of a bone in the œsophagus, which perforated at the height of the bifurcation of the trachea into the ascending aorta, 2½ centimètres behind the origin of the art. sub. clavia sin. The patient died suddenly from hæmorrhage on the fifteenth day, it being mentioned that a probe had been, after several unsuccessful attempts, somewhat violently passed into the stomach, and that the bone, which at first was perceptible at about the middle of the œsophagus, could not be felt afterwards. In a second case a fish-bone was removed from the larynx by superior tracheotomy, the foreign body having caused considerable dyspnoea. The voice ultimately got well, having remained hoarse for a considerable period. Two similar operations were successfully performed by Schönborn.

89. (a) Stirap advises a hot bath, or better—a hot air bath. Besides, he gives repeatedly a morphia salt in doses of ½ grain, and a small quantity of vin. stibiat. The patient must remain at home for a day or two. (b) Wood simply recommends *absolute* abstinence from all liquids until cure is effected. The patient may go out, and it is even desirable that by active occupation and warm clothing he should come into transpiration. Against insomnia, chloral, against constipation, laxative pills, ought to be ordered. The cure is said to be effected within three days.

90. The author gives this name to tumours on the posterior wall of the pharynx produced by dilatation of vessels on this and on the lateral walls of the same. This dilatation was, in two of the three cases which the author had seen, probably produced by an artificial compression of a coexisting struma by the patient's dress, in order to hide the goitre from view. In the third case nothing is said about such a compression, but there also was a large goitre. The appearance of these tumours is very much like that of a retro-pharyngeal abscess, but there is no fluctuation or diminished resistance on some spots against pressure, nor is there any pulsation. Its form is a semi-globular one. Deglutition and articulation are more or less impeded. The author made a small incision with a bistoury in two of the cases, this being followed in both instances by a very distressing hæmorrhage. This was at last stopped by the application of perchloride of iron; a tampon saturated with a solution of this drug being for a long time and firmly pressed against the spot of the incision. In both cases the size of the tumour was considerably diminished after this little operation; the difficulties in swallowing and speaking were greatly relieved,

and the author had the opportunity of hearing that the cures were lasting. In the third instance, which concerned a lady, aged 72, he declined to perform the operation on account of the patient's great age.

91. The author has derived, in several severe cases, great benefit, and even complete recovery from the following method of treatment, which is to be modified, of course, in all instances, according to the individual symptoms: (1) Inhalation of turpentine oil (15 min. of the oil for each inhalation), every hour one inhalation during day and night. (2) Twice or thrice daily injection of carbolic acid (3 per cent. solution), each time half a common morphia-syringe full into the parenchyma of the tonsils. (3) Every hour one to two teaspoonfuls of claret or Madeira; wet compresses or ice-bladder round the neck; two to three times daily warm baths with cold showers, hydropathic envelopments. Inf. digital. (gr. vii to 3 jji) with acid benzoic (gr. 30 to 40). The only food to be eggs and milk. Confinement of the bowels to be fought by ol. lini. If the croupous membranes become loose: sulphate of copper. If tracheotomy be necessary, inhalations of steam from turpentine-oil through and over the tube.

92. In the *Transactions of the Medical and Surgical Faculty of the State of Maryland*, 1878, will be found a description of this operation by Dr. Tiffany. The patient, a mulatto, first entered hospital with a polypus growing from the base of the skull, occluding the right nostril. The growth was removed by a wire passed round the base, but returned again in four months. It filled the posterior naso-pharyngeal space, and was attached to the internal plate of the right pterygoid process, its internal and posterior aspect, and to the adjacent basilar process. As the tumour was large, it was decided to depress the two upper maxillary bones, and to perform a "provisional tracheotomy". While the patient was being etherised, the tumour sunk down, closing the opening of the trachea. Raising the tumour caused it to bleed, and, asphyxia being feared, the patient was "stood" upon his head while the trachea was rapidly opened, liberating about an ounce of blood. A tube was then inserted, and further interference postponed. Six days later the operation was resumed. To prevent the entrance of blood into the air-passages, a piece of sponge attached to a piece of silk was passed into the opening of the larynx. An incision was carried down on either side of the nose, then around the alæ and through the middle line of the upper lip into the mouth. The cheeks were next freely dissected from the upper jaw as high as the nasal bones, infra-orbital foramina, and malar bones. A fine saw was then made to cut the jaw from the malar process into the middle meatus of the nose, passing just beneath the infra-orbital foramen, upwards and inwards. The posterior wall of the upper jaw was not divided. The septum and the vomer were cut with strong scissors. The upper jaw was strongly depressed and sunk down, hinging upon the pterygoid processes. The tumour was well exposed, and the pedicle divided by the cautery. Bleeding points were cauterised, and chloride of zinc in crystals applied to the bone from which the tumour grew. The jaw was replaced, and held in position by a loop of wire passed through the cheeks near the outer angles of the orbits, and joined above the forehead by a rubber band. A celluloid plate was then adapted to the teeth of the upper jaw, and grooved so as to hold the wire securely. Finally, the cheek flaps were united to each other and to the nose by sutures, and the

sponge was withdrawn from the larynx. The tumour was between three and four inches long, pear-shaped, and six inches in circumference, half an inch from the lower end.

93. Thorner recommends inhalations of carbolic acid in whooping cough. The inhalations ought to be made use of three times daily from the beginning of the convulsive period. It is advisable to begin with a 1 per cent. solution and quickly to increase the strength to 2 per cent. The urine must be carefully watched and the inhalations discontinued as soon as the beginning of intoxication is manifested. In cases of young children or of great irritation of the air-passages, the children ought to be brought three times daily into a small room, in which a carbolic acid spray of the described strength is working.

94. This was a demonstration before the Hufeland Society at Berlin, of Planté's secondary element, which is the condensator for a Bunsen's battery. Instruments connected with this secondary element heat a platina wire to red heat before a small reflector, and a very brilliant light is thus thrown into the cavity.

95. The author wishes to prove that in certain cases the galvano-cautery is at present almost indispensable, as it cannot be replaced by any other remedy or operative method. Amongst the quoted cases there is one of stenosis of the trachea, produced by chronic catarrhal inflammation and swelling of the subcordal mucous membrane, leading to a callous thickening of the latter for a considerable distance. By energetic and repeated endolaryngeal applications of the galvano-cautery, previous to and after the operation of tracheotomy, which was necessitated by the great dyspnoea, the swelling was gradually reduced, and finally disappeared completely. On the fifteenth day after the operation the tube was removed. The patient recovered a good clear voice. In another case a bulbous, rugged swelling, occupying the left arytenoid cartilage and the entire left half of the larynx, was successfully destroyed by some very few applications of the galvano-cautery.

96. The author avails himself of the description of a case in which a fish-bone was fixed in the right vallecula, and in which its removal was accompanied by considerable difficulty, to protest against the customary but dangerous practice of most practitioners, viz., to try to push the foreign body lower down into the oesophagus. He advises to produce a retching movement of the pharyngeal structures by pressing the protruded tongue strongly downwards and looking into the mouth at the same time. Then, he says, it will be possible in most cases to gain a good view of the pharynx, of the glottis, and of the upper parts of the larynx. At the same time, it may be, as illustrated by a personal accident, that the act of retching causes the removal of the foreign body from its fixed position. For the removal of fish-bones, the author recommends to dissolve such ones in diluted acids. He prescribes a gargle of nitric or hydrochloric acid, 40 minims of either to a tumbler of water. This would correspond to a solution of the strength of 1.60. A little syrup. cortic. aurant. may be added, and the teeth ought to be rubbed with some oil. A case in which this treatment was successful is quoted.

97. In a truly excellent paper on this subject, Mr. Walton, of Boston, comes to the following conclusions, based upon experiments on animals, normal and pathological observations, and most extensive literary researches—(a) Regarding the deglutitory

function. 1. That the epiglottis can be removed from dogs and cats without interfering with deglutition. 2. That the cases commonly quoted to prove the connection between the epiglottis and the deglutition of fluids prove nothing; not a single case having been found after a careful search through the reports of laryngoscopic observers, in which the lesion is shown to be limited to the epiglottis, and liquids are reported as causing a cough on deglutition. 3. That there are many cases in which loss of the epiglottis has not been followed by difficulty in swallowing liquids. 4. That in failure of the glottis to close, the epiglottis, if uninjured, is able to protect the larynx; but in the normal condition the presence of the epiglottis is not essential to perfect deglutition. [The reporter has had the opportunity of seeing a great many cases of this sort, and can thoroughly corroborate the author's statements in all respects.] It is, therefore, only an additional safeguard. (b.) Regarding phonation: 1. That the epiglottis produces *changes in pitch*, acting— α , as a sounding plate by means of its free edges; β , as a tuner, the organ itself modifying the pitch of the note by pressing back over the glottis or the opposite, the former lowering the pitch, the latter raising it. [Without entering here into the question whether these conclusions are unattackable or not, the reporter is glad to state again that his own physiological experiments performed last summer with the invaluable assistance of Professor Stockhausen again fully corroborate each of the author's statements as regarding the action and the movements of the epiglottis in singing the scale.] 2. That the epiglottis produces *changes in quality*. α , If a brilliant tone be intended, the free edge only of the epiglottis is turned up; β , If a sombre tone be intended, the epiglottis, followed by the tongue, pushes back over the glottis, so as to deaden the sound by obstructing it, instead of reinforcing it as it does in the brilliant tone; γ , If a veiled tone be intended, the epiglottis flattens towards the tongue, so that its whole posterior surface is in view. The same positions are taken by the epiglottis for each of the vowel sounds, the sound α , as in *far*, corresponding to the position described *sub* α , the sound α in *farw*, corresponding to the position β , and the sound α in *fale*, corresponding to the position γ . 3. That the epiglottis produces *changes in intensity*, acting like the valve at the top of an organ pipe, if the note of the reed is intended to be swelled. In acting so it must, of course, be drawn over the larynx, the ventricular bands being simultaneously drawn.—The study of this interesting little contribution to our physiological knowledge of the complex action of the organ of respiration will be equally interesting to the physiologist, the laryngoscopist, and to the enlightened teacher of singing.

99. A tracheotomy tube was shown by Dr. Warren at a meeting of the Boston Society for Medical Improvement, which had been worn by a child one year. Both the outer and inner tubes were eroded, and the sharp edges had irritated the larynx. Dr. Hodges mentioned that this erosion could be prevented by gold-plating the tube.

101. At a meeting of the Boston Society for Medical Improvement, Dr. Wheeler thus reported the case. A girl, twelve years old, had been attacked with the following symptoms: Shoulders fixed, head raised back, series of barking or expiratory efforts; steady increase of their violence; finally, an attack every fifteen minutes during the day, no paroxysms while sleeping. Duration of each paroxysm 1 to 1½

minutes, at the same time cyanosis of the face ; general emaciation. Laryngoscopic examination during a paroxysm showed the epiglottis to be standing up straight, and the vocal cords to be vibrating rapidly. Chloral, general tonics, belladonna, phosphoric and nitric acids, strychnia, gave no relief, chloroform and ether alternately were a little successful. Finally, quinine was given in the dose of four grains in the morning. At the second dose (four hours later) the interval of the paroxysms broke, and no third dose was required. The patient improved without recurrence.

102. The author recommends very highly this new method of applying iodoform in syphilitic affections of the mouth and pharynx. His pastilles, each of which contains two grains of iodoform, are made up with a gelatine basis. The patient is directed to allow one of these to dissolve slowly on the tongue twice or three times daily. In this way the iodoform is kept in contact with the lesions, while, at the same time, from four to six grains of the medicine are absorbed. Dr. Whistler states that he has not known gelatine basis to be used before as a base in lozenges. He considers it admirably adapted to this purpose, and he has for some time discarded the use of all others. The formula which he gives for the gelatine basis is as follows ; refined gelatine, one part ; glycerine, two-and-a-half parts ; flavoured water, two-and-a-half parts : liquid cochineal, q : s. ; to be made into a paste. The advantages of this basis over gum or fruit paste are, to give the words of the author, "1. That it makes a soft, flexible lozenge, which is perfectly unirritating to the mouth ; a quality which will be much appreciated by those patients who may be suffering with inflammation or ulceration of the tongue or palate, in which affections anything approaching to a hard lozenge gives pain. 2. Its stimulant nature, the gelatine keeping the mucous membrane constantly coated with mucilage, and giving more relief to dryness of the pharynx and larynx than any lozenge that I know of. 3. The readiness with which these lozenges are made, is another, and by no means the least, recommendation for their use. As they require no drying oven or special apparatus, they may be prepared by any chemist, and so the physician, no longer restricted to certain formulæ, may prescribe lozenges as he would pills or mixtures, extemporaneously, varying them to the requirements of the special case under treatment, using any remedy in them which he may see fit." These pastilles have been prepared for Dr. Whistler by Messrs. Bullock and Co., Hanover Street.

103. In speaking of the early manifestations of syphilis in the larynx, after commenting on the cases published by Czermak, Türk, Gerhard and Roth, Dance and Verras, Dr. Whistler remarks that there can be no doubt that certain phenomena of a more superficial nature do occur in the earlier periods of the disease, while deeper and more destructive ones mark a more advanced stage, and this with sufficient constancy to justify certain types being grouped together to represent certain periods. Dr. Whistler groups the laryngeal signs in eighty-eight cases of early syphilis thus : 1. Catarrhal congestions simulating those arising from ordinary causes. 2. Congestions accompanied by *diffuse redness and swelling*. 3. Mucous patches of various types. 4. More chronic inflammations, occupying as it were the period of transition, the signs of which are diffuse redness, thickening and ragged *ulceration*, especially of the vocal cords. Here the signs

are given in detail. Chronicity *not* a distinguishing feature. The essential points distinguishing syphilitic catarrh from others associated with diffuse redness and swelling—1. The redness is more limited in its distribution and is not so bright ; rosy in the earlier stages, becoming brighter in cases of long-standing, and is not vivid unless accidentally inflamed. 2. Is accompanied by general puffiness instead of great swelling. 3. There are no very acute subjective symptoms. Out of eighty-eight cases of early lesions, twenty-four had mucous patches in the larynx, accompanied in each case by mucous patches elsewhere—whilst out of eighty-two cases of late lesions, *not one* had a mucous patch—facts that refute the theory that superficial lesions of the larynx may occur indiscriminately at any stage of the disease. They occur most frequently on the cords and epiglottis, in the latter case resembling the *opalescent patches* found on the arches of the palate, the tonsils, and soft palate. The author here gives details of the frequency with which they attack the different parts of the larynx, and of their course, duration, and appearance. In their primary stage all are more or less *papular*, never attain any depth when ulcerated, and are very amenable to treatment. The ulcers resulting from them are more circular, isolated, and regular in shape than those of ordinary catarrhs. The treatment consisted in inunctions of mercury, perseveringly used, iodide of potassium occasionally, with the local application of nitrate of silver, or sulphate of copper, inhalations of benzoïn or tincture of tolu, and in some cases a spray of chloride of zinc. Whistler lays especial stress on the combination of *local* treatment with constitutional. He then gives an accurate description of the growth and development of what he has termed "*relapsing ulcerative laryngitis of the early and intermediate periods*". The ulcers are deeper, with ragged and thickened edges ; they are small, irregular in shape, and often multiple ; are, compared to a later stage, superficial, and unaccompanied with the necrosis and perichondritis produced by the burrowing ulcer of a later stage ; there is much thickening and often warty growth, the latter considered by the author to be characteristic of no diathesis ; is *chronic* and *relapsing*. Here the author gives minutely the differential diagnosis, from other stages of laryngeal syphilis, and from the other kinds of ulcerative laryngitis. He relates most interesting and instructive cases of each of the kinds on which he had lectured, giving minute details as to treatment, diagnosis and prognosis. In this course Dr. Whistler has not sought to touch upon the later lesions of syphilis ; as lectures, however, upon the earlier and intermediate manifestations, they are complete.

104. The author's observations include 845 cases of cancer, which have come within eight years under the care of Professor Billroth, of Vienna. Amongst those 845 cases there were 51 of the mucous membrane of the oral cavity (excluding the tongue), tonsils, nose, sublingual and submaxillary glands, nine of the œsophagus and pylorus, and but one of the larynx. The latter is the well-known first case of extirpation of the larynx.)

105. In a paper read before the Berlin Medical Society, Dr. Wiss communicated his treatment of diphtheria as follows : R. Chinin. sulf. gr. ii-x, ammon.-chlorid., 3 j. ; aq., 3 jii. ; syr. cort. aurant., 3 j. Dose.—Every two hours one dessertspoonful. If the disease be protracted, or great weakness remain : Liq. ferri perchlor. min. x, three times daily in sweet water.

106. The author recommends operations on the inverted head (the head being allowed to hang at right angles with the body over the end of the operation table), for operations on mouth, lip, and face, in order to avoid tracheotomy and plugging of the larynx. For tracheotomy the method is said to be especially favourable, because the trachea is drawn out much further from the thorax. Nor is there any objection against the use of chloroform, it being, on the contrary, supposed to counteract the tendency of anæmia of the brain caused by that drug. The extra amount of bleeding in consequence of the dependent position is very small.

FELIX SEMON, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. BENNETT, JAMES M., M.D.—Chronic Cervical Metritis coupled with Dilatation (*Dublin Journal of Medical Science*, October 1878).
2. MILLER, HUGH, M.D.—Clinical Lecture on the Lochial Discharge (*Edinburgh Medical Journal*, November 1878).
3. BARKER, FORDYCE, M.D.—On the Induction of Premature Labour in the Albuminuria of Pregnancy (*American Journal of Obstetrics*, July 1878).
4. HYERNAUX, M.—On the Oxytocic Action of Chlorhydrate of Pilocarpine (*Bulletin de l'Académie Royale de Médecine de Belgique*, Tome xii, troisième série, No. 7).
5. PUECH, DR. A.—New Researches on Hernia of the Ovary (*Annales de Gynécologie*, November 1878).
6. Report of the PUERPERAL FEVER COMMITTEE of the Berlin Obstetrical Society to the Prussian Minister of Public Health (*Zeitschrift für Geburtshülfe und Gynäkologie*, Band 3, Heft 1).
7. HORWITZ, DR.—Contributions to the Study of Podalic Version (*Archives de Tocologie*, September 1878).
8. EUSTACHE, DR. C.—Study on Perineorrhaphy immediately after Delivery (*Archives de Tocologie*, September 1878).
9. MILLER, J. L., M.D.—On Puerperal Fever (*Glasgow Medical Journal*, August 1878).
10. THEVENOT, DR.—On Artificial Delivery *per vias naturales* instead of Cæsarean Section (*Annales de Gynécologie*, November 1878).
11. DOLAN, MURAK, M.—A Contribution to our Facts on Puerperal Septicæmia (*Obstetrical Journal of Great Britain and Ireland*, November 1878).
12. HAMILTON, G.—Case illustrating some Points in the Management of Tedious Labours (*Obstetrical Journal of Great Britain and Ireland*, November 1878).
13. TRENHOLME, GEO., M.D.—On Digital Dilatation of the Os Uteri in Labour (*Obstetrical Journal of Great Britain and Ireland*, November 1878).
14. Annual Report of the Madras Government Lying-in Hospital for the year 1877.
15. THOMAS, T. G., M.D.—Intravenous Injection of Milk as a Substitute for Transfusion of Blood (*New York Medical Record*, August 1878).
16. RHEINSTADTER, D.—Angiosarcoma of the Ovary in an Inguinal Hernia (*Centralblatt für Gynäkologie*, November 9, 1878).
17. MARTIN, DR. A.—On the Treatment of Chronic Metritis (*Berliner Klinische Wochenschrift*, October 21, 1878).
18. CARRIGER, J. A., M.D.—The Use of Ipecacuanha in Labour (*New York Medical Journal*, November 1878).
19. GRAVES, T. W.—A New Vaginal Speculum (*New York Medical Journal*, November 1878).
20. MORSE, W. H., M.D.—The Relation of Menischesis to Pelvic Contraction (*American Journal of Obstetrics*, October 1878).
21. GOODMAN JOHN, M.D.—The Cyclical Theory of Menstruation (*American Journal of Obstetrics*, October 1878).
22. FRANKE, J. W., M.D.—A Contribution to the History of the Development of the Human Decidua (*American Journal of Obstetrics*, October 1878).
23. WADE, DR. WITT C., M.D.—Mechanical Treatment of Uterine Displacements (*American Journal of Obstetrics*, October 1878).
24. GEHRUNG, EUGENE C., M.D.—Improved Vaginal Douche (*American Journal of Obstetrics*, October 1878).
25. MCMECHAN, J. C., M.D.—Hypermastia and Polymastia in the Female, with Remarks on the Etiology and Treatment of Mastitis (*American Journal of Obstetrics*, October 1878).
26. A. S. COE, M.D.—A Contribution to the Pathology of Puerperal Albuminuria (*American Journal of Obstetrics*, October 1878).
27. HANKS, DR.—Set of Instruments for the Rapid Dilatation of the Cervix Uteri during Pregnancy (*Trans. of the Obstetrical Society of New York*, February 5, 1878).
28. SCHRAMM, DR. J.—On Menstrual Exanthemata and Urticaria after Leeching the Os Uteri (*Berliner Klinische Wochenschrift*, October 21, 1878).
29. WALLACE, J., M.D.—Clinical Studies on Some Forms of Utero-Pelvic Disease.
30. HENICKE F.—Contribution to the Treatment of Uterine Cancer in Pregnant Women (*Zeitschrift für Geburtshülfe und Frauenkrankheiten*, Band 1, Heft 2).
31. HERMAN, DR.—The Treatment of Pregnancy complicated with Cancerous Disease of the Genital Canal (*Obstetrical Society of London*, October 1878).
32. JOHNSON, DR. L.—Fallopian Pregnancy (*New York Academy of Medicine*).
33. ALLEN, DR. W. F.—Laparotomy in a Case of Extra-uterine Fœtation (*American Journal of the Medical Sciences*, October 1878).
34. GARRIGUES, H. J., M.D.—On Laparo-elytrotomy (*New York Medical Journal*, November 1878).
35. HIME, J. WHITESIDE, M.B.—A Case of Laparo-elytrotomy (*Lancet*, November 9, 1878).
36. EDIS, ARTHUR W., M.D.—A Case of Laparo-elytrotomy (*British Medical Journal*, November 30, 1878).
37. GAUDIN, DR. G.—Successful Case of Cæsarean Section (*Archives de Tocologie*, September 1878).
38. Cæ-arean Section by Porro's Method (*Centralblatt für Gynäkologie*, November 23, 1878).
39. Removal of the Uterus by Freund's Method (*Centralblatt für Gynäkologie*, November 1878).
40. VERARDINI, FERDINANDO—Researches on the Causation of the Utero-placental Souffle, and new Observations corroborative of the Value of Intravaginal Auscultation (*Giornale Veneto di Scienze Mediche*, 1878).
41. MANGIAGALLI, DOTTOR LUIGI.—Uterine Fibroids in Relation to Pregnancy, Parturition, and the Puerperal State (*Annali Universali di Medicina e Chirurgia*, October 1878).
42. PLAYFAIR, W. S., M.D.—A Treatise on the Science and Practice of Midwifery. Two vols., second edition. Smith, Elder and Co. London: 1878.
43. CHARLES, DR. N.—Displacements Backwards of the Uterus in Pregnancy. Masson. Paris: 1878.
44. CHIARA, PROFESSORE CAR. DOMENICO.—Spontaneous Evolution shown in Section on the Frozen Body. Fratelli Rechiedei. Milano: 1878.
45. PINARD, DR. A.—Abdominal Palpation and Version by External Manipulation. H. Lauwereyns. Paris: 1878.

1. Dr. Bennett injects iodine into the tissue cervix by means of a modified hypodermic syringe, the points of which are made of eighteen-carat gold. The instrument is charged with a solution composed of ten grains each of the iodide and bromide of potassium, to which half a drachm of tincture of iodine and sufficient distilled water is added to bring

it up to two drachms. Three to four punctures are generally made through the speculum, according to the amount of hyperplastic matter to be absorbed. A cotton pledget, soaked in glycerine, is placed against the part, and rest enforced for at least twelve hours. Dr. Bennett thinks that by injecting the iodine into the hypertrophied cervix it acts upon it more directly than if it is merely applied to the cervix in the usual manner. In most cases he dilates at the same time with sponge tents, after the first effects of the interstitial injection have passed off.

3. Dr. Fordyce Barker, reasoning on the premises that the chances of convulsions in labour in albuminuric patients are one in five, argues that these chances will be greatly increased by inducing labour. Dr. Barker contends that the albuminuria when discovered should be treated by venesection, purging, and diaphoretics, not by the induction of premature labour. He describes a case in which a lady was advanced to the eighth month of her first pregnancy, in whom amaurosis was almost complete. Her face was oedematous, she had headache, anorexia, and occasional nausea. The urine contained 85 per cent. of albumen. She was treated by venesection to the amount of twenty ounces; blisters to the nape of the neck and over the temples; a drachm and a half of compound jalap powder every other morning; acetate of potash and digitalis in full doses; and she was kept on a milk diet. After three days of this the improvement was rapid. The urine became abundant and almost free from albumen. The headache disappeared, and after sixteen days her sight was restored. Her labour was not attended by convulsions. Dr. Fordyce Barker believes this the only case on record in which amaurosis has disappeared before labour.

4. Dr. Hyernaux administered hypodermic injections of the drug to two pregnant women for the induction of premature labour. In the first, labour resulted; but she had already been subjected to warm water enemas, vaginal injections of warm water, and warm hip baths, which had excited the commencement of labour. In the case of the second woman, who was subjected to the action of the pilocarpine alone, labour did not result. The constitutional symptoms, however, which were produced were marked. Immediately after the subcutaneous injection of three-tenths of a grain of chlorhydrate of pilocarpine in a gramme of distilled water, the patients' eyes became brilliant, then humid and tearful, the sight was obscured without great alteration of the pupil, the face became covered with sweat, which poured off in large drops. At the same time the pulse rose rapidly from 100 to 160 per minute. Respiration increased proportionately. The diaphoresis descended from the upper part of the body to the lower. It did not break out all over the body at once. The hands and feet were cold and sticky from the beginning. Ptyalism, watery vomit, and diarrhoea set in. The urine was abundant. The patient felt very ill. The above symptoms lasted two hours, at the end of which the patient regained her normal condition. In the case of the second woman, three subcutaneous injections of the pilocarpine were given. Not the slightest symptom of labour followed, nor the smallest modification of the os uteri. Experiments with the drug on rabbits produced similar results, and when persevered with, reduced the animals to a moribund condition. No oxytocic action was observed.

5. In this paper, Dr. Puech relates a case of inguinal hernia of the left ovary in a girl aged thirteen. He rested his diagnosis on the following grounds:—

The tumour was of the size and shape of an ovary, solid, movable, and susceptible of reduction. It was not intestine, because 'it was solid and could be reduced without gurgling. It was not a gland, for the same reasons. It was not a piece of epiploon, because in children of her age it does not descend sufficiently to reach the inguinal canal. By the application of an ordinary inguinal bandage, the tumour has been retained in the abdomen.

6. In this report it is stated that 2,751 lying-in women died of puerperal fever in Berlin between the years 1861 to 1876 inclusive. This is according to the official statistics, but it is feared that the real mortality was far greater. To prevent such a mortality, the puerperal fever committee of the Berlin Obstetrical Society state that in their opinion stringent laws relating to midwives must be passed. They state that the infection carriers are the midwives who go from one diseased lying-in woman to another without disinfecting themselves. It is undoubted that the midwives who attend purely to labours handle their patients more than do the physicians who often only arrive when dangerous symptoms have set in. The regulations which the committee have drawn up are directed to two points: the prevention of individual cases, and the prevention of the spreading of the fever from one case to another. The first point is to be attained by the use of disinfectants during labour. They think that in view of the ignorance of midwives upon this point, it is almost advisable to issue a public notice recommending husbands not to allow their wives to be examined by hands which have not been disinfected. They say when it has become the general practice in all cases and under all circumstances for every physician and midwife to disinfect their hands before examining a patient, the mortality from puerperal fever will diminish. The rules to be observed where puerperal fever has broken out have special reference to the known facts that definite epidemics can be traced to the practice of individual midwives. Hence every midwife and physician should make a report to the sanitary authorities on the occurrence of any severe case of fever in childbed, unless it is clear that it is unconnected with the puerperal process. As opinions differ as to the causes of death, all midwives must give notice of every fatal case during childbed which may happen to them. The sanitary authorities should have the power of suspending for a time any midwife from her work. This alone prevents her spreading disease. The committee believe that if these rules are carried out, thousands of lives will be saved to the state every year. The report is signed on behalf of the Society for Obstetrics and Gynaecology in Berlin by Dr. C. Schröder, Dr. Max Boehr, Dr. Fasbender, Dr. A. Martin, and Dr. Löhlein.

7. Dr. Horwitz arrives at the following conclusions. 1. In cases of abnormal presentation, where the seizure of a foot presents insurmountable difficulties, the attempt to reach it should be abandoned. 2. In such cases we should be content with seizing a knee, because this is easier and is sufficient to effect version. 3. Only in those cases where it is impossible to seize either a foot or a knee, ought we to attempt version by the pelvis.

14. In the year 1877, 1,539 women were delivered in the Madras lying-in hospital. Dr. Harris remarks in his report that the general salubrity of the hospital is testified by the fact that not a single death occurred after natural, tedious, or preternatural labour, or after 78 cases of delivery by the forceps, from 1st April to 31st December. Two hundred and twenty-seven

women were assisted in their labours, 1 in 6 $\frac{1}{2}$. Labour was accelerated in the first stage by Barnes' dilators in 22 cases. The forceps was used in 118 cases, 1 in 12 $\frac{1}{2}$ deliveries. The mortality of children was 21, of mothers 7. Version was performed 38 times, 9 cephalic and 29 podalic; of the 29 children 13 were stillborn. The maternal mortality was 2. Craniotomy was resorted to in 38 instances; maternal mortality, 10. Decapitation was performed in 6 cases: maternal mortality, 1, from ruptured vagina. Extraction to complete delivery was performed in 25 cases: mortality of children, 5; maternal mortality, *nil*. Gastrotomy was performed with a fatal result in 5 cases of ruptured uterus and vagina. Induction of labour was had recourse to in 5 cases, viz., puerperal convulsions, 1; albuminuria and dropsy, 3; anæmia and dropsy, 1; all recovered. The method employed was that advocated by Barnes, viz., the introduction of an elastic bougie between the membranes and the wall of the uterus and allowing it to remain until labour sets in. The labour-pains nearly always began between 12 and 18 hours after the introduction of the bougie.

15. The conclusions at which Dr. Thomas arrives have been given in the LONDON MEDICAL RECORD for December 1878, page 507.

20. Dr. Morse points out that a woman who does not menstruate until after the age of twenty, does not, as a rule, have a natural labour. This is because the pelvis at puberty does not undergo any change, but retains the form of childhood. Contracted pelves are never found in females who began to menstruate before fifteen and who had no trouble in menstruating.

21. The conclusions to which Dr. Goodman is led as to the nature and cause of the menstrual function are the following—1. Menstruation is the result of a general condition of the vascular system; the local manifestations occurring as a rule in the generative organs, from the fact that they are especially adapted, anatomically and histologically, for their display. 2. The general disturbance of the vascular system is of a nature to elevate the blood pressure throughout the entire organism, and arises from a contraction of the muscular coats of the arteries and veins. 3. In all probability, when the tension of the vascular system reaches its greatest degree, activity is imparted to certain muscular fibres, which from their collocation and only possible function must be regarded as accessory to the vaso-motor muscles, and through their co-operation the local phenomena are intensified. If this view is correct, the periodicity of the function is explained by the intermittent action of involuntary muscular fibres. As is well known, the energy of this kind of muscular tissue is exerted paroxysmally, periods of activity alternating with states of rest. Each muscle or set of muscles, however, has a rhythm of its own; the heart, for instance, contracts and relaxes with great regularity seventy or eighty times a minute, and the uterus only once in from two to thirty minutes or more; while the vaso-motor muscles seem to have allotted to them a longer time for repose and correspondingly slower mode of action. During gestation, the periodic contraction of the vaso-motor muscles is in this way inhibited and menstruation suspended. But the physiological steps of the nervous cycle are never arrested. Most women observe indications of the return of the menstrual epochs in pregnancy, and the tendency to abortions in pregnancy is known. A practical point is the importance of timing all operations on the female. Dr. Goodman has met with several cases in which

serious losses of blood followed the extraction of teeth at or about the menstrual period.

30. Dr. Benicke relates five cases of cancer in the pregnant uterus which have been under his care, and in which he removed the cancerous growths before the labours came on. 1. Cancer of the posterior lip, which was removed at the fifth month of pregnancy; the labours came on at term and a living child was born, but died five days afterwards. 2. Cancer of the posterior lip of the os uteri, removed by the écraseur at the sixth month of gestation. In the operation Douglas's pouch was opened; peritonitis and abortion resulted. The patient recovered. 3. Cancer of the posterior lip, removed at the fifth month. Easy and natural labour occurred at term, and a living child was born. 4. Cancer of the whole os uteri, removed towards the end of gestation. Labour came on five days afterwards; the child was born living. Four months later the operation on the os was repeated. 5. Cancer in early stage: removed at the fifth month. Abortion took place next day. It will be observed that in two cases out of the five abortion resulted.

31. Dr. Herman's conclusions as to the treatment of cancer during pregnancy are as follows. 1. When it is possible to remove the disease, either during pregnancy or in labour, it should be done. 2. When this cannot be effected the safety of the mother is best secured by procuring abortion. 3. In labour the dilatation of the os should be assisted by incisions in its circumference. 4. The os being dilated, and its being expedient to hasten delivery, the forceps is preferable to turning. 5. When it is impossible to dilate the cervix Cæsarean section is the last resource.

33. Dr. Atlee was consulted on Sept. 5, 1877, by Mrs. O. an Irish woman. She had been married sixteen years. After examination he thought her pregnant. On the 13th April following, Dr. Atlee came to the conclusion that she was carrying in her abdominal cavity, outside the womb, a child that had come to full term in January, when the child had died. The body was in the lower part of the belly, placed transversely, the back forwards, and the head on the left side. He advised her to wait until symptoms of blood poisoning set in; otherwise nature was not interfered with. A month later the patient came again, and Dr. Atlee came to the conclusion that the advice he had given was not good, but that an operation should be done at once. The patient eagerly consented. On May 17th the operation was performed as follows:—an incision six inches in length, beginning one inch above the navel, was made in the linea alba; the peritoneum was found thickened, and from it escaped a liquid like pea-soup, about one-and-a-half pints in quantity. The child's body showed itself and was pulled out breech first. The cavity in which it was contained was cleansed out by sponging, at the bottom a knuckle of intestine about two inches in length showed itself. With this exception the dead body of the child, which weighed four pounds two ounces, appeared separated from the contents of the abdomen by a continuous membrane of greater or less thickness. No further investigation was made of the state of things. The umbilical cord was cut so that about four inches hung out of the lower part of the wound, alongside it an india-rubber drainage tube was placed, the wound sewn up, and the usual dressings applied. The temperature never rose after the operation above normal. On June 13th, the patient returned home with a few

drops of pus still coming from the wound, but the discharge diminishing daily.

34. Dr. Garrigues relates two cases of laparotomy which were performed by Dr. Thomas ; in the first of which the mother and child died about an hour after the operation, but the mother was *in articulo mortis* before the operation from pneumonia, and the operation was performed in the interest of the child. In the second case both mother and child recovered, although the bladder was injured. The operation was performed for contracted pelvis, the conjugate diameter being two-and-a-half inches. Dr. Garrigues then relates three cases in which the operation was performed by Dr. Skene. In the first of Dr. Skene's cases the operation was performed in the interest of the mother after perforation of the head of the child. The mother died seven hours after the operation. In the second case the operation was successful for mother and child. The mother was rachitic. In this case also the bladder was opened. The vesico-vaginal fistula resulting was closed some weeks after her recovery by Dr. Skene. The third case was one of lordosis and ankylosis of both hip joints. Both mother and child recovered. The bladder was injured and urine flowed through the abdominal wound some days after the operation. Dr. Garrigues then describes the anatomy of the operation in a most complete and exhaustive manner. With regard to the incision in the vaginal wall, he advises that it should be made by the actual cautery, and that it should be enlarged by tearing with the fingers. By this means the danger of hæmorrhage is avoided. The conclusions at which the author arrives are these:—1. Laparo-elytrotomy ought, when possible, to be performed instead of Cæsarean section in all cases, and instead of operations by which the fœtus is broken up, when these would be particularly difficult, especially when the smallest diameter of the pelvis measures two inches and a half, or less. 2. It does not require exceptional skill or rare instruments. It is, indeed, less difficult than ovariectomy and herniotomy. 3. Five assistants are desirable, and four indispensable.

35. In this case, the first recorded in Europe since Ritgen and Baudelocque, the patient, aged 37, was pregnant for the ninth time. Four children still survived. She was a drunkard. The recto-vaginal system was converted into a cancerous mass, and labour *per vias naturales* impossible. Dr. Hime, assisted by Drs. E. Jackson and O'Keefe performed the operation of laparo-elytrotomy on Sunday, July 14th, at 6.30 p.m. With the exception of the spray, the Lister method was used. The incision was made through the abdominal wall from above the spine of the pelvis to the anterior superior spine of the left ilium. The peritoneum was raised and the vaginal wall pushed up by a probe passed up the vagina. It was seized with a hooked forceps and divided. A finger was passed through the wound into the os uteri, which was occupied by the head and a bag of waters. A foot was seized, version effected, and a living male child delivered. The placenta followed almost immediately. The uterus contracted without hæmorrhage. The operation lasted a little over twenty minutes. The wound was washed with a 5 per cent. carbolic solution, closed with gut sutures, and covered with antiseptic dressing. On partially recovering from the operation she became violent and abusive. Three persons were necessary to hold her down ; she died about two hours after. At the necropsy, a clot about the size of a couple of walnuts lay in the bottom of the wound. The bladder and peritoneum were quite

uninjured. The uterus was healthy and contracted. The os and cervix were free from laceration. There was no cancerous disease in the upper part of the vagina.

[It will be observed that in this case the incision in the abdomen was made on the left side ; in all the cases reported by Drs. Thomas and Skene it has been done on the right side, as well as in the case lately done in London by Dr. Edis.—*Rep.*]

36. In this case the patient was an Irish woman, aged 20, primipara. The pelvis was small throughout, conjugate diameter two-and-a-half inches. The application of the forceps was unsuccessful. There was a large thrombus of the right labium ; and the right hip-joint was ankylosed in a flexed position. The operation was undertaken in the interest of both mother and child. At 11.30 a.m. on Nov. 23rd, Dr. Edis, assisted by Dr. Heywood Smith and Dr. Fancourt Barnes, performed the operation of laparo-elytrotomy in the usual way, the incision being made from above the anterior superior spine of the right ilium to above the pubes. A staff was passed up the vagina and the incision made on to it by scissors. The incision was enlarged by the scissors. The os uteri was lifted up and a live male child weighing 7 lbs. 10 oz. was delivered through the wound by the forceps. The placenta was expressed through the wound. The bladder was ruptured. The patient died forty hours after the operation. A *post mortem* examination was refused by the friends.

37. In this case the Cæsarean section was resorted to in consequence of pelvic deformity in a rickety dwarf. The conjugate diameter was only 5 centimètres. The head presented in the first position. The patient was placed fully under the influence of chloroform, an incision was made from 4 centimètres above the umbilicus to 2 centimètres above the pubes. The uterus was opened with scissors. The child, a live female, was seized by the feet and extracted just at the moment when some meconium was escaping. The placenta was situated on the posterior wall of the uterus. The uterus contracted immediately after the delivery of the child, and the placenta was removed with the greatest ease. Although the child was alive it was necessary to insufflate the lungs to produce respiration. Before the mother had recovered consciousness, the uterus having firmly contracted and there being no sign of bleeding, the uterine wound was left untouched and the abdominal wound sewn up with eight sutures. During the night vomiting set in which caused the hernia of a portion of large intestine of the size of two fists. Dr. Gaudin removed the three sutures, returned the hernia, and sewed up the wound. Signs of peritonitis followed, but at the end of the eighteenth day cicatrization was complete. Then metrorrhagia set in ; this was controlled by ergotine and the injection of perchloride of iron. Exactly one month after her delivery the patient got up and went about her usual work. The child also survived.

38. At present the operation of Cæsarean section by Porro's method has been done eight times. Dr. Fehling performed it in this case for distortion of the pelvis and hyphoscoliosis. Labour pains having set in the abdominal incision was made from above the umbilicus nearly down to the pubes. The uterus was then drawn through the abdominal wound and an Esmarch's band fastened round the cervix ; this done the incision was made into the uterus, and the child, a live male, extracted by the foot. There was no bleeding from the uterus. The uterus was then cut off with a scalpel above the Esmarch's band, and

the pedicle secured by a clamp. The abdominal wound was then closed with deep and superficial sutures. The patient died on the fifth day from septic peritonitis. The antiseptic precautions were used; but, through an accident, the spray broke down in the middle of the operation.

39. In this case the patient was 34 years old and had had two children, the last ten years ago. The cancerous growth had invaded the body of the uterus, which was retroverted. On September 30th, Dr. Leopold performed the operation of total extirpation of the uterus by Freund's method, under complete antiseptic precautions. The operation lasted two hours and a half. At the beginning of the second day after the operation, the patient died. The details of the *post-mortem* examination are so interesting that we give a translation in full. "At the necropsy the abdominal wound was found already in process of union. The intestines in the pelvis were greatly injected (commencing peritonitis). At the bottom of the pelvis cavity there was a collection of about two or three tablespoonsful of sanguineo-serous fluid. After the entire pelvic organs had been carefully removed, the ligatures were found to have been well applied, and the bladder and ureters uninjured. A careful examination, however, of the posterior wall of the bladder revealed the presence of several fine offshoots and streaks of cancerous growth, which had also been observed during the operation. The result of destroying this by the cautery would have been extremely unsafe. As regards the stitching of the peritoneum, the unsewing of it at the autopsy proved how defective it necessarily is, even when it appears to be well done during the operation. With regard to this point, we cannot follow too carefully the advice of Dr. Freund in reference to the closing up of the bottom of the wound and the stitching in of the Fallopian tubes. The condition of the ovaries was the most interesting part of the examination. During the operation the left ovary was felt to be small and atrophied, the right contained a fluctuating follicle about the size of a hazel-nut, which had recently burst and was filled with blood. (The operation was performed nine days after the commencement of the last period.) At the necropsy, the condition of the ovaries was remarkably changed. It was evident, that as a result of the great stagnation resulting from the ligatures, that both ovaries had increased to three times their size on account of numerous blood effusions, and were lacerated internally. In the right ovary the blood effusion had ruptured the delicate wall of the follicle and poured out into the pelvic cavity. From nowhere else could the recent blood found in Douglas' pouch have come. Taking all the facts into consideration, there can be no doubt that the patient died from the loss of blood and septic peritonitis." This case points to the importance of observing the rule to avoid surgical interference either just before or after the menstrual nixus.

40. The conclusions arrived at by Dr. Verardini are these:—1. External or supra-abdominal auscultation is uncertain, and when the soufflé is heard it does not prove the existence of pregnancy. 2. On the other hand, the placental soufflé heard through the intravaginal stethoscope is of great value, and enables a diagnosis to be made in the early stages of pregnancy; it is not inconvenient to or objected to by the patients. 3. Intra-vaginal auscultation might decide the existence of twin pregnancy. 4. The cause of the soufflé, whether heard internally or externally, is the passage of blood along the small and tortuous vessels or sinus which form the placenta.

Hence the possibility of hearing the soufflé by internal auscultation during the first weeks of pregnancy.

41. Dr. Mangiagalli, after giving a number of illustrative cases and carefully weighing them in an exhaustive paper, comes to the following conclusions:—1. Uterine fibroids may be a cause of dystocia or influence the presentation, or by interfering with the action of the uterine fibres, give rise to inertia or partial spasm, which may require the assistance of the obstetrician; but most frequently they impede labour mechanically. 2. The classification into sub-mucous, intramural, and sub-serous, is of practical importance as affording the indications for obstetric interference. 3. The induction of premature labour is only requisite in cases where the life of the mother is endangered. 4. In cases of doubtful diagnosis, the tumour should be punctured by a small trocar. 5. During labour the enucleation of the tumour should be attempted, especially where embryotomy is performed. This proceeding is particularly useful in cases of interstitial fibromas which invade the cervix, or sessile, or pedunculated fibroids which precede the presenting part. 6. Cæsarean section is of more universal application in these cases than in pelvic malformations, inasmuch as extirpation of the uterus and tumour can be practised at the same time, and the prognosis in cephalotripsy is rendered unfavourable by the presence of the tumour.

42. The first edition of this excellent work was exhausted in the short period of two years. Dr. Playfair is well known as an able representative of the modern scientific school of obstetricians, and the two volumes which form his treatise on midwifery constitute a clear and complete exposition of the views of that school. The treatment of the placenta by expression, which has so long been insisted on in the Dublin school, and which has only lately been introduced in London in a somewhat roundabout way through Professor Crédé, is set forth by Dr. Playfair in a concise and practical manner. He also advocates a more frequent and intelligent use of the forceps, and in this respect his teaching will do much to diminish maternal and especially infantile mortality. Many new illustrations have been added, and the book, describing as it does all the latest and most successful methods of practice, forms a safe and trustworthy guide and text-book for practitioners as well as students.

43. This is practically a second edition of a memoir Dr. Charles read at the Academy of Medicine of Paris for the Capuron prize. Dr. Charles has substituted the title of "retroversion", which he considers too limited, for "displacements backwards", which term includes retroflexions and retroversions. The work consists of 282 pages, and is illustrated by numerous engravings.

44. Prof. Chiàra gives six beautifully coloured drawings illustrating the condition of the fœtus during the process of spontaneous evolution. The patient died in labour during spontaneous evolution, and the drawings were made from sections of the frozen body. The drawings are nine-tenths of the natural size.

45. The object of Dr. Pinard's work is to demonstrate the possibility of diagnosing mal-presentations by palpation during the last weeks of pregnancy, and of rectifying them by external version. Having reduced the presentation to a normal one he applies an abdominal belt to keep the fœtus fixed in the new position until labour sets in. He thus avoids breech and shoulder presentations and secures head presentations. It is obvious that this proceeding marks a

progress in obstetric medicine. Abdominal palpation has hitherto been greatly neglected, but in future it can no longer be so. Professor Tarnier lately said, at the Society of Medicine, "In a short time physicians and midwives will be compelled, under pain of neglecting their duty, to assure themselves, during the last month of pregnancy, whether the presentation is normal or not. On their side, the patients will soon find out that there is a simple means of avoiding serious risks. They will naturally come to avail themselves of it. These ideas will quickly spread, and among the lower classes, the poor women will acquire the habit of going during the last month to the lying-in hospitals to find out if their children are in proper position. This will be a great progress, because, in this way, a large number of obstetrical operations will thus be avoided." When visiting the clinique d'accouchements at Paris, the reporter had an opportunity of seeing Dr. Pinard reduce an arm presentation by external version, apply his binder, and thus secure a head presentation. The binder or entotic belt, as it may well be called, is described and figured in the *British Medical Journal*, for Dec. 7th, 1878.

FANCOURT BARNES, M.D.

DERMATOLOGY.

RECENT PAPERS.

1. AULAS, C.—Septicæmic Eruptions. (*Thèse de Paris*, 1878.)
2. GOWERS.—Cases illustrating the treatment of the Bromide Rash with Arsenic. (*Lancet*, June 15, 1878.)
3. MANASSEI, C.—Photographic Album of Cutaneous and Syphilitic Diseases. (Rome, 1877.)
4. NEUMANN.—On Newer Methods of treating Certain Diseases of the Skin. Report of Meeting of the K. K. Gesel. der Aerzte, Vienna. (*Rundschau*, April 1878, p. 358.)
5. VIANNA, C.—On the use of Araroba or Goa Powder in the treatment of Some Cutaneous Affections. (*Gaceta Méd. de Lisbon*, and *Gaz. Méd. de Paris*, July 27, 1878, p. 361.)
6. ZEISSL, H.—On the Curative Effects of Iodoform. (*Wien. Med. Wochens.*, 1878, p. 764.)
7. On Lupus, Syphilis, and Superficial Epithelioma, with a Communication upon a Rare Form of Lupus, Lupus Cornutus. (*Wien. Med. Presse*, Nos. 6 and 8, Feb. 1878.)
8. Modern Indian Leprosy. A Tour in Kattiawar. (Bombay, 1876.)
9. ROHE.—Leprosy in the United States. (*Maryland Med. Journ.*, July 1878.)
10. HARDY.—The Different Varieties of Scrofulides. (*Gaz. des Hôpitaux*, p. 417, May 7, 1878.)
11. CORNIL.—Cancer of the Skin. Soc. Méd. des Hôpit. (*Gaz. Hebdom.*, July 26, 1878, p. 477.)
12. FOX, TILBURY.—On so-called Eczema Marginatum. (*Archives of Dermatology*, Vol. iv, No. 4.)
13. STANSBURY.—On the treatment of Psoriasis with Chrysophanic Acid. (*Archives of Dermatology*, Vol. iv, No. 4.)
14. FOX, GEO. HENRY.—On the Proper Use of the Term "Acne". (*Archives of Dermatology*, Vol. iv, No. 4.)
15. SHERWELL.—The Use of Linseed and Linseed-Oil as Therapeutic Agents in Diseases of the Skin. (*Archives of Dermatology*, Vol. iv, No. 4.)
16. HARDAWAY.—On the Removal of Superfluous Hairs. (*Archives of Dermatology*, Vol. iv, No. 4.)
17. BULKLEY.—On a New Method of Removing Superfluous Hairs. (*Archives of Dermatology*, Vol. iv, No. 4.)

9. Rohé states that fifty cases of true leprosy have been observed in the United States.

12. In this paper, Dr. Fox defends the generally received opinion that eczema marginatum is simply a severe form of tinea circinata. He writes approvingly of the treatment by goa-powder.

13. Reports three cases successfully treated by an ointment of ninety grains to the ounce of lard.

14. The author advocates the strict limitation of the term to an inflammatory condition of the sebaceous glands.

15. Reasoning from the known results of linseed on animals, Dr. Sherwell has been induced to administer linseed to badly nourished persons, and to patients suffering from skin diseases. The patient either masticates and swallows about an ordinary teacupful of the seed daily, or the ground seeds are taken stirred up in milk, or it is eaten as linseed bread, being mixed with ordinary flour, in the proportion of one to three-fourths. Dr. Sherwell also uses the oil externally, and has found it very useful in chronic eczema. He reports cases of pityriasis rubra and pemphigus, in which the internal use of the linseed was beneficial.

16. At a meeting of the American Dermatological Association, Dr. Hardaway recommended the removal of superfluous hairs by electrolysis. Several members of the Association had used a similar method, and believed they had been successful in completely eradicating a considerable percentage of the large hairs. At the same meeting, Dr. Atkinson reported on some culture-experiments with the trichophyton tonsurans. He concludes that "the fungus unquestionably belongs to the mucors, probably to the mucor mucedo".

17. The method consists in extracting the hair by forceps held in the left hand, whilst a fine needle held in the right hand is inserted simultaneously into the follicle down to the hair bulb. By a rotatory motion, the epithelium of the follicle is broken up. The author originally dipped the needle in carbolic acid before each insertion, but latterly has repeatedly omitted this procedure. When carbolic acid is used, more inflammation is excited. In a lady on whom this operation was performed the hairs had not reappeared for two years, when the author wrote. In a second case, hairs removed nearly a year previously had not returned, and a similar result had followed in two cases, respectively six and four months under observation.

G. THIN, M.D.

ANATOMY AND PHYSIOLOGY.

SCHMOULEWITCH ON THE INFLUENCE OF CHANGES IN THE VASO MOTOR SYSTEM UPON THE IRRITABILITY OF MUSCLE.—M. Schmoulewitch, in a communication to the Académie des Sciences of Paris, September 2nd, 1878, gives the conclusions at which he has arrived after repeating the experiments of Stersøn in regard to this question. He states that muscles, when they become anæmic, do not immediately exhibit a loss of irritability, but that for a short time the irritability is increased, that it reaches a maximum, and then falls. This is contrary to the view which is generally accepted. If a nerve be cut, the irritability of the muscle is found to be increased for the first few seconds, due, as the author supposes, to anæmia following immediately upon section of the nerve. That this is the case is shown by two experiments. If the aorta be compressed,

the artery of the muscle be ligatured, the irritability does not occur after section of the muscle. This proves that the increase depends upon the circulation. Secondly, if an animal is completely paralysed with urari there is always a loss of the irritability of the muscles after section of the nerves. In this the vaso-motor nerves can alone be the cause, since they are not readily paralysed by the urari. The conclusions arrived at are, therefore, that anæsthetic and nervous affections of the nervous system can cause changes in the vaso-motor functions and cause the irritability of muscles. This fact has been demonstrated clinically, but it has hitherto been insufficiently explained theoretically.

RICHET ON THE EXCITABILITY OF THE RETINA.

Ch. Richet has exhibited before the Société de Médecine (*Le Progrès Médical*, Nov. 9th, 1878) an instrument designed to measure the degree of stimulation of the retina. The apparatus is so arranged as to indicate both the intensity and the duration of the stimulus employed. From experiments with this instrument, M. Richet finds that the retina is unaffected by light of feeble intensity and short duration; thus a flash of light of a second is not perceived by the eye.

If the duration or intensity of the light be increased, a luminous sensation is appreciated. A curve of retinal excitability has thus been obtained. There is in the retina a vis inertæ which has to be overcome before there is any perception of light. The experiments of M. Richet are thus in opposition to the opinion generally accepted by physicians, that the eye is sensitive to light however feeble. The simple colours, blue and red, are always clearly perceived.

HOPPE-SEYLER ON HÆMOGLOBIN AND ITS PROPERTIES.—M. Hoppe-Seyler (*Zeitschrift für Phys. Chem.*, Band 1, p. page 121) finds that hæmoglobin exceedingly useful in detecting traces of free oxygen, for it forms oxyhæmoglobin, which is recognised under the spectroscope by means of its two absorption bands. The oxyhæmoglobin is formed when the pressure of free oxygen does not exceed 1.5 mm. of mercury, or in a mixture of gases which contain only 0.194 per cent. of oxygen. Hæmoglobin cannot be reduced by fermentation, and can be preserved for an indefinite length of time in hermetically sealed tubes. Hæmoglobin which is unaltered by ferments alone is reduced after contact with oxygen, it then forms a body known as thæmoglobin. In the same way arsenicated hydrogen and sulphuretted hydrogen have no effect upon hæmoglobin in the absence of air or oxygen, but they precipitate it as soon as admitted, or in other words soon as oxyhæmoglobin is formed. Hæmoglobin is also used to demonstrate the presence of oxygen in animal secretions, by its means the author has been enabled to prove that oxygen is present in the saliva from the parotid and submaxillary glands, though it is absent from bile, and from urine which has been collected in the ureter. Hæmoglobin saturated with carbonic oxide is in like manner altered by the ferments; it may be used in the investigation of cases of poisoning by this gas, for it is found that the two peculiar bands given by hæmoglobin which has been treated with carbonic oxide, are distinguished; and this even when a large quantity of reduced hæmoglobin giving the usual green broad band is also present.

LOMIKOWSKY ON THE CHANGES IN THE INTERNAL ORGANS AFTER THE SUPPRESSION OF THE

CUTANEOUS PERSPIRATIONS.—M. Lomikowsky (*Journal de l'Anat. et de la Physiol.*, July-August 1878) has investigated with considerable care the changes which take place in animals whose skins have been partially and wholly varnished. The conclusion to which he has been led, is that varnishing the skin of animals, either in part or entirely, causes loss of heat. It is to this loss of heat that the cause of the changes which some animals undergo is to be attributed; it is, moreover, the all-sufficient cause, so that there is no necessity to admit the existence of any hitherto undefined poison. The rise in temperature which is first observed in animals which have been partially varnished, is the inevitable result of the loss of heat. The symptoms which supervene when the entire body of an animal has been varnished, even with such harmless substances as albumen, gum arabic, or dextrin are very marked and appear rapidly. The animal becomes restless and trembles; its respiration, at first quickened, becomes slower; its temperature falls to 19-20° C. (66.1°-68° F.); albumen appears in the urine; the amount of carbonic acid exhaled by the animal diminishes rapidly; the respiration becomes still slower; the activity of the heart becomes markedly feebler; the pulse is scarcely perceptible; there are sometimes convulsions, after which the animal dies. If, however, the varnishing be only partial, the symptoms are somewhat different. The temperature of the animal rises soon after the application of the varnish. The rise of temperature continues three or four days; the morbid symptoms only manifest themselves gradually. Shortly before death, the respiratory movements become very slow but of great depth. These experiments are interesting from a medical point of view, when it is considered that burns, even when they are but superficial, are inevitably fatal when they occupy a space which is equivalent to two-thirds of the entire skin, as was shown by Falk in 1871. In animals, on the other hand, varnishing of a portion of the body, which is equivalent to one-quarter of the entire surface, is found to cause death. In both cases it is the partial destruction of the skin, causing thereby a derangement in its function, which exercises a baneful influence upon the organism, in spite of the fact that there is an uninjured portion, which in accordance with a general law of pathology, should aid the affected part.

WOLFF ON THE MECHANISM OF SMELL.—Dr. T. B. Wolff (*Rev. Internat. des Sciences*, October 3, 1878) continues his researches into the mechanism of the sense of smell. To produce a sensation of smell, a chemical combination of a vapour emanating from the odorous body with a fluid is necessary. This fluid constantly moistens the olfactory mucous membrane, and is prepared in those natural laboratories, the glands of Bowman, whose anatomical relations have long been known, but whose physiological function is still a matter of doubt. Dr. Wolff, in studying the sense of smell, has had recourse to the olfactory organ of bees, since these insects have a single large gland, which can be seen without mechanical assistance, which pours its secretion over the olfactory mucous membrane. The organ of smell is found in the head in insects, and in a position analogous to its situation in our own case, being placed upon the upper and hinder face of the velum of the palate. This organ then consists of two lateral halves, each provided with a cluster of about a hundred dark points or prominences, of nearly the same size, visible at the top of the arch of

the mucous membrane, whilst they are paler, less distinct, and somewhat smaller towards the periphery of each group. The prominences are small pits, surrounded with chitin, and each contains a very delicate olfactory thread, which is in connection with a nerve. This nerve is provided near its termination with two globular swellings, which serve as ganglia, and there are consequently twice as many ganglia as there are olfactory prominences. These ganglia are extraordinarily delicate, and are destroyed by the slightest pressure. The olfactory nerves of the bee are also very sensitive to the influence of chemical reagents, and they cannot be preserved by any of the known methods.

RICHET ON THE GASTRIC JUICE.—Dr. Charles Richet (*Journal de l'Anat. et de la Physiologie*, March-April 1878) furnishes a monograph upon the chemical and physical properties of the gastric juice in man and animals. The general history and literature of the subject is first given; after which the author enters upon the physiology and histology of the glands of the stomach. The chemical constitution of the gastric juice is next dealt with, and finally the action of the gastric juice upon the alimentary substances with which it is mixed, is considered. Dr. Richet shows that in regard to the cause of the acid reaction of the gastric juice, the observations of the most eminent observers are at variance, for some (Prout, Children) attribute it to the presence of hydrochloric acid, whilst others (Berzelius, Chevreul) believe that it is caused by lactic acid. Tiedemann and Gmelin thought that the acidity was due to nitric acid.

The author has endeavoured to investigate this question of the nature of the acidity of the gastric juice by experiments conducted upon a patient suffering from complete stricture of the œsophagus—brought about by the accidental swallowing of strong caustic potash, upon whom gastrotomy had been performed in July 1876. The experiments extended over a period of five months, at the expiration of which time the patient was completely cured. The œsophagus being impermeate, the gastric juice was free from any admixture with saliva, and absolutely pure gastric juice was obtained by first washing out the stomach, and then giving the patient something agreeable to masticate, when an abundant flow of gastric juice occurred. As the agents used in the analysis of the gastric juice act directly upon it in such a way as to modify its constitution, Dr. Richet has had recourse to a method based upon a principle developed by M. Bertholet. If an aqueous solution of an acid be shaken up with ether, the ether and the water separate the acid in a constant ratio—the coefficient of separation—whose numerical value is constant for each acid.

The results of the experiments are as follows. Fresh and pure gastric juice contains an acid insoluble in ether, and traces of an acid which is soluble. Gastric juice, as it grows old, undergoes a fermentative action, akin to putrefaction, whilst the proportion of organic acid increases. The free acid appears to be sarcolactic acid. The acid of the gastric juice is probably the hydrochlorate of some weak base. The free acid of the gastric juice is hydrochloric. The hydrochloric acid is combined. A combination similar in its various reactions can be produced by warming a solution of hydrochloric acid with an infusion of mucus from the stomach. This combination is hydrochlorate of leucin. The acidity of the pure gastric juice is, on the average, 1.3 parts by

weight of hydrochloric acid to 1,000 of the secretion. The acidity of the gastric juice and alimentary substances, taken together is, on the average, 1.7, and seems to increase slightly towards the termination of digestion. Neither the quantity of the matter, nor the liquids in the stomach, seem to exercise any very perceptible influence in changing the proportion of acid. Alcohol and wine increase the acidity, while cane sugar diminishes it. After the ingestion of acid or alkaline liquids, the general contents of the stomach gradually approach the normal acidity.

RAEHLMANN AND WITKOWSKI ON TYPICAL MOVEMENTS OF THE EYES.—Raehlmann and Witkowski, in the *Archiv für Anat. und Physiol. Abtheilung*, Heft 4 and 5, show that movements of both eyes in opposite directions, which are quite abnormal, become associated in sleep; as, for instance, lateral movements with an upward inclination, and quite decided unilateral movements. It is very improbable that pure reflex movements of the conjunctiva corneæ can be performed during sleep. In new-born infants the majority of the movements of the eye are apparently associated lateral movements, amongst which, however, there are other markedly unco-ordinated movements, which alternately lead to diverging, converging, and frequently to lateral and upward movements. During the few days succeeding birth, purely unilateral movements are occasionally observed, which differ from the same movements during sleep only by their greater rapidity. The co-ordinating movements between the lid and the eyeball are sometimes very imperfectly developed, so that there is frequently a remarkably wide interval between the lids; but sometimes this is so far unilateral that when the eyes look downwards the two upper lids, or, it may be, only one, are drawn upwards. In the blind, the divergence which occurs when the eyes are at rest, is not noticeable whilst they are in motion. In one experiment, after a forced lateral movement, the eyes slowly and unconsciously returned to their position of rest. These return movements occurred on both sides asymmetrically, and with different degrees of energy. A marked elevation of the upper lids without a corresponding movement of the eyeball occasionally occurred, when the patient was ordered to look upwards. Converging movements were satisfactorily performed under an energetic contraction of the pupil. Unco-ordinated movements of the eyes also occurred in sleep, and under similar conditions, such as intoxication, chloroform narcosis, and epileptic fits.

SMITH ON THE EFFECTS OF PRESSURE ON THE IRRITABILITY OF NERVE-TRUNKS.—Dr. Meade Smith (*Philadelphia Med. Times*, July 1878) has investigated the results of pressure upon the irritability of motor nerves in pithed frogs, the sciatic nerve being compressed between a column of mercury and a glass support. The conclusions drawn from sixty-three experiments are the following. (1) A pressure of 35-450 millimètres of mercury causes an increase of irritability of the muscular or peripheral end of the nerve, whilst the irritability of the spinal or central end as constantly decreases. (2) Although these modifications of irritability bear a certain relation to the degree and duration of pressure, the variation is much less marked in the peripheral than in the central end of the nerve. (3) After the nerve has been in a state of exalted excitability from long-continued pressure, when the pres-

is removed the irritability falls below the normal, without subsequently regaining its original level. The effect of pressure on the spinal cord is to diminish its irritability, the diminution depending exactly upon the degree and duration of pressure; after removing the pressure there is a constant tendency to regain the normal standard, which is, however, never reached. Dr. Smith next proceeds to investigate the effects of pressure upon the central nerves, as shown by a comparison of the degree of reflex action evolved by equal stimulations of the sciatic in a frog, before, during, and after pressure. The frog was not pithed, but the medulla was divided, to remove the inhibitive influence of Setschenow's centre. It was found that the reflex irritability of the peripheral portion of a man whose trunk is subjected to pressure, is diminished during maintenance of the pressure, and tends to regain the normal upon its removal, while the irritability of the central end is diminished with a rise subsequent to the removal of pressure, if it has not been continued too long. The most probable explanation of these facts, according to Dr. Smith, is that the mechanical disturbance of the nerve-elements brought about by the pressure, causes a temporary increase in the natural nerve-currents, or that the pressure may act as a partial irritant to the nerve, not, however, sufficient to cause muscular contraction, but which requires only the addition of a weaker stimulus, to accomplish that result.

OGSTON ON THE GROWTH AND MAINTENANCE OF THE ARTICULAR ENDS OF ADULT BONES.—Dr. A. Ogston (*Journal of Anatomy and Physiology*, July 1878) confirms his previous statements that the articular cartilages are of the same value as periosteum in forming new bone, and in maintaining the structure and shape of the old bone. In investigating to what extent the bone is formed by the articular cartilages, material assistance is afforded by the fact that bone produced by cartilage is marked out by the trabeculae of its meshwork being placed at right angles to the bone surface, whilst periosteal bone is characterised either by its main trabeculae being parallel to the bone-surface, or by there being no indication of any special direction observable in them at all. In young and growing individuals, the shaft of the long bones is formed by new bone added to the exterior by the periosteum. Our knowledge of the formation of bone at the epiphyses is less certain; there seems, however, to be some reason for believing that the red medulla may under certain circumstances in young and growing individuals produce bone; in the adult this is not the case. Dr. Ogston shows, from the study of the growth of long bones, such as the tibia, phalanges, and ribs, that the articular cartilages produce almost the whole of the epiphysal ends.

VULPIAN ON THE NERVES INFLUENCING THE SECRETION OF SWEAT.—M. Vulpian communicated the results of his experiments upon this subject, conducted upon cats, to the Académie des Sciences, June 10, 1878. According to Nawrocki, the sudoriferous nerve-fibres for the anterior limbs run in the upper part of the thoracic portion of the sympathetic. This statement has been confirmed by the experiments of Luchsinger, and still further by those of M. Vulpian, who finds, however, that a feeble secretion of sweat can still be produced after section of the thoracic trunk. He also notices that the sudori-

ferous nerve-fibres which arise directly from the spinal cord are more numerous in the sciatic than in the brachial nerves.

NEWMAN ON THE PHYSIOLOGY OF THE KIDNEY.—Mr. Newman (*Journal of Anatomy and Physiology*, July 1878) shows that the rapidity of the secretion of urine depends upon the relationship which exists between the pressure of blood in the glomerules of vessels, and the urine in the capsule of the Malpighian body and in the tubuli uriniferi; upon the state of blood-pressure in the venous system of the kidney; upon the pressure upon the lymphatics; upon the quality of blood in the artery of the Malpighian tuft; upon the state of the walls of the artery constituting the Malpighian tuft, and of the capsule itself; and upon the activity of the tubular epithelium. By means of an ingenious apparatus, Mr. Newman has endeavoured to imitate the conditions found in the Malpighian bodies of the kidney. In the first series of experiments, water was passed into the apparatus under a certain pressure, the afferent pressure; a certain efferent resistance being offered to its egress. From the results obtained, it is concluded that the amount of fluid that filters through an animal membrane is increased according to the tension inside. Repeating the experiment with the kidney of a recently killed horse, the amount of fluid (.75 per cent. salt solution), passing through the ureter, increased with the arterial or afferent pressure, but not in proportion. In a second series of experiments, keeping the afferent and efferent forces the same, it was found that, as the resistance to the transudation is increased, the proportion of water passing through the apparatus to the proportion which passes along it, is diminished. Performing a similar experiment on a horse's kidney, the inferences to be drawn are, that when the tension of the fluid of the tubuli uriniferi increases, the amount of urine secreted diminishes, and when it becomes equal to the arterial tension the secretion ceases, but if the pressure outside be greater than that inside the vessel, the circulation through the Malpighian body may be stopped altogether by collapse of the arterial coil. Mr. Newman also discusses in the same manner the effects of altering the efferent resistance alone and the afferent pressure alone; he finds that urea retards the passage of water through an animal membrane, and that albumin passes through the same material under pressure the more readily when urea is present. In the kidney, temperature has an important influence upon the rapidity of the circulation and transudation; the higher the temperature of the fluid, the more rapid is the circulation and transudation.

D'ARCY POWER.

PAULIER ON A NEW METHOD OF PREPARING THE SPINAL CORD.—M. Armand B. Paulier (*Le Progrès Médical*, Oct. 26th) presented to the Académie de Médecine the spinal cords of certain animals, prepared by a new method which he calls *chemical dissection*. It consists in macerating the cord in a solution of 2 per cent. bichromate of potash, and 4 per cent. sulphate of copper; after eight or ten days, the cord, stained a more or less greenish yellow, is placed for two or three days in a solution of 1 per cent. of sulphuric or hydrochloric acids. Generally, in two or three days the decolorisation is complete, but hydrochloric acid imparts a soapy consistency to the cord, which disappears after maceration for twelve hours in a 1 per cent. solution of chloral; at the end of these procedures the cord is tinged bluish, it is firm, re-

sistant, sufficiently elastic to be handled with ease. It may be divided into parts in its whole length, or submitted to other reagents. In case the separation of the parts is difficult, it should be macerated for twelve hours in a mixture of equal parts of glycerine and water for some hours; and finally it is sufficient to remove all trace of discolouring, to leave the cord in pure water till the following day. This procedure does not succeed so well with human cords as with those of animals. ROBERT SAUNDBY, M.D.

SURGERY.

RECENT PAPERS.

- PENKERT.—Dislocation of the Cervical Vertebral Column. (*Berl. Klin. Woch.*, No. 50.)
 LAROYENNE.—Treatment of Erectile Tumours. (*Lyon Médical*, No. 50.)
 TERRIER.—Laparotomy. (*Journ. de Méd. et de Chir.*, No. 12.)
 GÖRDE.—Imperforated Anus. (*Journ. de Méd. et de Chir.*, No. 12.)
 PFEL-SCHNEIDER.—Tracheotomy Performed with the Head of the Patient Hanging Down. (*Allg. Med. Cent. Zeit.*, No. 94.)
 BOECKEL.—Tracheotomy. (*Gazette Méd. de Strasbourg*, No. 10.)
 ECHEVERRIA.—Trephining in Epilepsy. (*Arch. Gén. de Méd.*, Nov. and Dec. 1878.)
 BAHRE, EDEL, LOWY, HOPPE.—Several New Trusses (*Ill. Vierteljahrschr.*, No. 1.)
 DAWSON, W.—Cases from the Surgical Clinic. (*Cinc. Lancet and Clinic*, No. 24.)
 LITTLE.—Antiseptic Method of Treating Surgical Injuries. (*Amer. Clin. Lect.*, vol. iii, No. 2.)
 HENOCQUE.—Osteomyelitis and Spontaneous Septicæmia. (*Gas. Heb.*, No. 52.)
 COLIN.—Septicæmia. (*Bulletin de l'Acad. de Méd.*, No. 52.)
 EBERMANN.—External Urethrotomy. (*St. Petersb. Med. Woch.*, No. 49.)
 LARGAGOLLI.—Case of Traumatic Tetanus. (*Gas. Med. Ital. prov. Venete*, No. 51.)
 BAFFA.—Ulcers of the Plantar Region of the Foot. (*Gas. Med. Ital. prov. Venete*, No. 51.)
 DUPLAY.—On a Shot in the Right Frontal Temporal Region. (*Arch. Gen. de Méd.*, December 1878.)
 WAGNER.—Treatment of Empyema. (*Berl. Klin. Woch.*, No. 53.)
 HUETER.—Dermatophony. (*Centralblatt*, Nos. 51, 52.)
 BOCKENHEIMER.—Resection of the Long Bones. (*Deutsch. Med. Woch.*, No. 51.)
 JOSIAS.—Tumour of the Trochanter. (*France Méd.*, No. 103.)
 OLLIER.—Resection of the Elbow. (*Rev. Mens. de Méd. et de Chir.*, No. 12.)
 LANNELONGUE.—Osteomyelitis during Growth. (*Bull. de l'Acad.*, No. 51.)
 BAUER.—Joint Diseases. (*St. Louis Clin. Record*, No. 8.)
 BYRD.—Adenoid Tumour of the Neck. (*St. Louis Clin. Record*.)
 DUCKWORTH.—Treatment of Bed Sores. (*Can. Journ. of Med. Science*.)
 MCPHEDRAN.—Traumatic Aneurism of the Temporal Artery. (*Can. Journ. of Med. Science*, No. 12.)
 POWELL.—Lithotripsy by a Single Operation. (*Can. Journ. of Med. Science*, No. 12.)
 BRENTON.—Urethral Stricture. (*Phil. Med. Times*, No. 288.)
 HUTCHINSON.—Club foot. (*N. Y. Med. Record*, Nos. 24, 25.)
 BAKER.—Malposition of Ureters. (*N. Y. Med. Journal*, No. 6.)

RAUFMANN.—Apparatus for Treating Fractures of the Thigh with Plaster. (*Ill. Vierteljahrschr.*, No. 1.)
 HACK.—A New Truss for Hernia. (*Ibid.*)

ROSENBAACH ON OSTEOMYELITIS.—According to Dr. Rosenbach of Göttingen (*Deutsche Zeitschrift für Chirurgie*, Band x, Heft 3-4), phlegmonous inflammation of the medulla of bone is not readily produced through the simple action of mechanical, physical, and chemical agents. This author, in experiments on animals, has frequently crushed and lacerated the medulla, has passed a seton through the tissue, applied active physical irritants, as, for instance, the actual cautery, and also chemical agents as caustic alkalies and fuming nitric acid, without having ever succeeded in setting up phlegmon. On the other hand, the injection of a small quantity of septic pus or of some other putrid material will invariably set up, in bone marrow a phlegmonous inflammation similar in course and character to the so-called spontaneous osteomyelitis. The results obtained from these experiments lead to the conclusion, previously derived by Professor Lucke from chemical observation, that the so-called osteomyelitis invariably results from infection. The infective material must be carried to the medulla by the blood, and the localisation of the phlegmonous attack may depend on injury, chilling, or, in brief, on some local disturbance of the circulation. It is difficult, however, in every case to account for the localisation.

The author suggests that osteomyelitis is a specific infective disease presenting certain definite characters. It is not communicable. The infective material, when present in the blood, is capable of setting up localised phlegmon of bone-marrow with or without the associated influence of some local circulatory disturbance, as traumatism or chilling. The general condition of the patient is not, as a rule, much disturbed by the direct action of this material. The grave general symptoms that are so often met with in cases of osteomyelitis are due to the direct passage into the vascular system of decomposed fatty material and products of inflammation.

The author relates that he has proved by experimentation on animals that a general infection may be established affecting very slightly the general system, but capable, in association with fracture of any long bone, of causing in the injured bone a localised inflammation similar in nature to osteomyelitis. W. JOHNSON SMITH.

LETIÉVANT ON COMPLETE CONGENITAL BRANCHIAL FISTULA CURED BY IODINE INJECTIONS.—This case is reported in *Le Progrès Médical*, Nov. 16, 1878. The patient was 16 years of age, and first came under notice April 10th, 1878, at the Hotel-Dieu, Lyons, suffering from a sero-purulent discharge which escaped from an opening situated in the right subclavicular region. This little orifice was noticed by his mother when he was born; but there was no discharge until the age of three, when measles seemed to have acted as an excitant. From that time things had remained in the same condition, the fistula never giving rise to pain, merely causing fits of coughing. An examination revealed an elongated cord-like tumour, extending under the skin from the inner extremity of the right clavicle, along the internal edge of the sterno-mastoid muscle, to the level of the upper border of the thyroid cartilage. The swelling decreased in size from below upwards, and appeared to be lost in the deeper structures of the region. It was soft and movable, rising with the larynx during

the movements of deglutition. The skin was quite healthy, but at the lower part of the tumour was a small red orifice about the size of a quilting needle ; during deglutition, by the act of its elevation, this opening became invaginated in the skin. By pressure, creamy, or sanguineous pus could be squeezed out, causing the disappearance of the little swelling at the lower part of the cul-de-sac. A microscopic examination of this pus showed leucocytes, red globules, and cylindrical epithelial cells. On introducing a stylet, it could be passed upwards for 8 or 9 centimètres, but no superior opening could be detected, although when a certain point was reached, the coughing was induced. At the lowest part, in connection with the orifice, was situated a small rounded pouch. A milky injection shortly found its way into the mouth, thus implying a direct communication with that cavity. A laryngoscopic examination, in conjunction with the injection, revealed a small opening below the right tonsil. The right posterior pillar of the soft palate was absent, being replaced by two little papillæ, of which the superior and posterior was perforated by a small orifice, only visible when liquid was injected by the fistula. The rest of the mouth, the lips, the face, and the neck, presented no malformation ; there was no deafness nor deficiency of hearing on the affected side. The family history showed a large amount of congenital deafness ; thus the maternal grandfather, one of the uncles, and a cousin were thus affected ; the father and brothers of the patient were quite free from this defect.

When injecting sapid fluids into the fistula, no sense of taste was experienced until the internal opening had been passed. M. Letiévant, taking into consideration the relations of the fistula to the larger vessels of the neck and the pneumogastric nerve, and bearing in mind the difficulties that would be met with in an attempt to dissect out the sinus, decided to try the effects of iodine injections. From May 6th to June 3rd, sixteen injections of tincture of iodine with an equal quantity of water were made ; the pain caused by this measure was generally only slight. At the latter date there was no longer supuration ; the cord was only a little painful on pressure. June 16th. Patient appeared cured. Both the external and internal orifices were closed. The fistulous tract felt merely a small subcutaneous cord. There was neither pain nor discomfort on pressure. —Discharged.

VERNEUIL AND OTHERS ON ARTHROTOMY FOR THE EXTRACTION OF FOREIGN BODIES.—At the *Société de Chirurgie* (Nov. 6th, 1878), M. Verneuil brought forward the following case. A man, aged 31, strong and well built, but with a rheumatic history, noticed in December 1877, a pain in the right knee ; this increased in severity, and in the month of May 1878, he found a foreign body at the side of the joint, which could be fixed by certain manœuvres. He sought advice and two foreign bodies were then found ; one, the larger, situated at a point internal and above the patella, was very movable and easily detected ; the other one, unless fixed by the patient, was not easily caught, and sometimes disappeared for many days. M. Verneuil decided to effect removal by opening the articulation. The patient was anæsthetised, but just as the incision was about to be made the last foreign body escaped ; the operation was therefore postponed. At the next attempt the substance was first fixed by acupuncture needles, and a section made of the skin and tissues upon the body ; a hard white tissue was first reached and thought to be the new formation ;

this tissue, however, being incised the foreign body escaped from it. Similar steps were taken on the outer side of the joint and extraction effected, here the synovial membrane was found to be thickened. During the operation a carbolic acid spray was kept playing upon the wound, and this was afterwards washed with a strong solution of the same antiseptic agent. The lips of the wound were not approximated, but a piece of linen steeped in carbolic acid interposed, and a wadding dressing applied. The external wound healed in twenty days, the internal one a little later. When the patient left the hospital there was slight stiffness of the joint. The foreign body resembled pieces of the white soap which tailors use for correcting defects, and were composed of cartilaginous tissue.

M. Lucas-Championnière thought that this interesting case added another to the antiseptic arthrotomies published by Saxtorph, Lister, Bœckel, and other surgeons. The results of Lister's method were better than those obtained by the wadding treatment of Guérin. He had extracted a very large foreign body from the knee joint by this plan ; the substance was so placed that it was necessary to open the popliteal space. The articulation was exposed and drained, the wound then sutured. At the third dressing, on the eighth day, cicatrisation was perfect, and at the termination of the third week the patient left the hospital with natural movements of the joint. He had also operated upon a patient of M. Tarnier's with puerperal arthritis of the knee. The fever was intense, the pain intolerable, the woman for many nights keeping her neighbours awake by her cries. The articulation was opened antiseptically and carefully drained. Pain ceased immediately the fever subsided ; healing was obtained with preservation of the normal movements.

M. Gillette is a strong advocate of the wadding plan. At the *Hôpital Temporaire* he had extracted a foreign body from the knee joint of a man, aged 28, with hyarthrosis. Immediately after the operation wadding was applied to the wound, and all precautions taken to prevent the entrance of air. At the end of forty days, when the dressing was raised, the cicatrix was perfect.

M. Després considered that foreign bodies in joints necessitating an operation by their presence were rare. He had often discouraged the idea of an operation in such cases. Arthrotomy was not always fatal ; he did not think it a very grave operation, and cited numerous instances of penetrating wounds of joints that had terminated favourably.

M. Trélat was of opinion that statistics would prove if the operation of arthrotomy was justifiable. If the mortality did not exceed more than three or four per cent. it was a decided gain.

VERNEUIL ON ARTHRITIS DUE TO LYMPHATIC PROPAGATION.—In a communication made to the *Académie de Médecine* (Oct. 16) M. Verneuil stated, that he had met with five cases in which a secondary arthritis of the knee followed a lymphangitis of the lower extremity. The first of these was a man, 50 years of age, with a shattered constitution, who had an ulceration on his instep, and shortly a lymphangitis of the corresponding lower extremity, giving rise to numerous abscesses, equal to an olive in size. After some of these in the region of the knee had been opened, the joint became the seat of violent pain and inflammation, and presented all the signs of a purulent arthritis. In spite of every care the patient died some time after. The second patient was

a young girl of 14, who received a contusion of the great toe, from this arose a lymphangitis and multiple abscesses in the leg. One of these, situated on the inner side of the knee, was opened; this was followed, in a few days, by a purulent arthritis, and neither drainage of the articulation, nor immobility of the limb, could prevent an unfortunate termination.

In the third observation, the man was cachectic, and 48 years old, with a wound on the dorsum of his foot about the size of a five franc piece; this was followed by rigors, vomiting, fever, and a lymphangitis. The urine contained some albumen. By appropriate treatment the lymphangitis subsided and the albumen disappeared, but an abscess showed itself in the neighbourhood of the knee; this opened spontaneously, but a purulent arthritis was set up, from which the patient slowly succumbed. The fourth case was that of a man with lymphangitis and erysipelas, arising from a wound of the great toe, which opened into one of its articulations. The resulting inflammation extended as far as the top of the thigh, but as the swelling subsided an enormous hyarthrosis of the knee appeared. Emollients, tincture of iodine, and blisters partly dispersed this, but the patient, who was always weakly, had bed sores, and died from pneumonia. The last observation was upon a man aged 60, who was cachectic and had a collection of fluid in his knee joint. An examination revealed an excoriation on the foot, a lymphangitis of the lower limb, and an adenitis of the groin; on the inner side of the knee there was also a collection of pus. The limb was kept immovable, and frictions employed. The abscess was finally laid open, the fluid absorbed, and the man recovered.

M. Verneuil remarks that the explanation of these phenomena is not easy; persons who are cachectic and with an external injury, seem generally to be the victims. It is admitted that the lymphatics of the subcutaneous cellular tissue communicate with the synovial articulations opening into the bursæ, and permitting by extension the inflammatory propagation, which in these cases had been observed. At first, a communication is frequently established between the lymphatics and the periarticular serous membranes, then between these last and the articular ones. Early opening, with the modern antiseptic precautions, is recommended for these lymphatic abscesses, decided benefit having been found to result from so doing.

DUPLAY ON DIFFICULTY IN CATHETERISING THE ŒSOPHAGUS.—The patient who is the subject of the observations in the *Archives Générales de Médecine* for September, was under the care of M. Duplay, in the Hôpital St. Louis, suffering from cicatricial stricture of the gullet, due to the swallowing of vitriol. Many efforts were made to pass an instrument into the stomach, but without avail. On admission, 2 grammes (31 grains) of bromide of potassium were given daily, and this subsequently was increased to four. Every attempt at complete catheterisation having failed, last January, that is two months after first admission, a hollow sound was introduced. This passed for 34 centimètres (about 13 inches), as on former occasions, and then stopped. It was then perceived that during inspiration and expiration air passed through the instrument. It was undoubtedly in the trachea; and an examination with the laryngoscope showed that the opening of the glottis was very large, and although a full size instrument was in the windpipe, respiration was freely carried

on. After this the laryngoscope was always used when an attempt was made to catheterise the œsophagus, and with complete success, as the patient was finally dismissed with the stricture fully dilated.

M. Duplay publishes the case to show how long an œsophageal sound may be passed into the air passages without its whereabouts being recognised. In the case reported, this was due partly to the tightness of the stricture, which was situated at the upper opening of the œsophagus, and also to the exceptional tolerance of the patient, who bore a sound passed into his windpipe; this tolerance M. Duplay thinks being due to the use of the bromide of potassium. Attention is also drawn to the usefulness of practising catheterisation with the hollow sound, and to the importance of laryngoscopic examination during the treatment of these cases.

DUPLAY ON NERVE STRETCHING.—Two cases of nerve stretching were reported at a meeting of the *Société de Chirurgie* (December 6th, 1878). A man, aged 29, two months before he came under notice, was wounded in the front of the forearm with a knife. The wound had healed, but it was found that the muscles supplied by the radial and median nerves were paralysed; the skin of the forearm, at some points, had lost its sensibility; at others there was a degree of hyperæsthesia. Both nerves having been exposed by incision were found injected, as though slightly inflamed; they were stretched. The next day sensibility in the affected parts was noted, the hyperæsthesia disappeared and the muscles were no longer paralysed. There was no relapse into the former condition. The second case was a man, aged 26, who sometime before had been wounded in the wrist; a cicatrix had formed just above the pisiform bone. At this point a small fibrous patch existed, seeming to adhere to the flexor carpi ulnaris muscle, and being very painful on pressure. By means of an incision, it was found that the little tumour was in connection with the ulnar nerve, and after the nerve had been fully stretched the tumour disappeared. The following morning the interossei muscles had regained their contractility, which before the operation had been absent, sensibility had reappeared, and the pain on pressure was no longer present. Improvement continued, and only a slight degree of muscular atrophy existed when the patient left the hospital.

DESPRÉS ON EXTRACTION OF A PROSTATIC CALCULUS.—This communication was made to the *Société de Chirurgie*, October 16th. The patient was a man aged 50, who, following gonorrhœa, had stricture complicated with two urinary fistulæ. After various kinds of treatment (progressive dilatation, cauterisation with caustic paste), without benefit, had been tried, the case came into M. Després' hands. A No. 7 sound having been passed, the existence of a calculus, judged to be in the region of the prostate, was revealed. A rectal examination confirmed this diagnosis. M. Després did not wish to perform urethrotomy, as he considers this an operation which renders this stricture more fibrous and resisting; but as no sound above No. 7 could be made to enter the bladder, an operation was resolved upon. A prerectal incision was made; at the bottom of the wound a fibrous cord was perceived, the nature of which could not be determined. The sound introduced into the canal not having been seen, the operator decided to incise this cord. It proved to be in the urethra, and the sound was now found; dilatation having been practised, a calculus was extracted, upon

which was impressed all the eminences and depressions of the prostatic region. A No. 7 sound was now introduced into the bladder, commencing at the meatus. In twenty days it was withdrawn, and a No. 14 then readily passed. On the fifty-first day the patient left for the country, only a small fistula remaining, from which a little urine escaped.

The calculus was of the size of a chesnut, weighing 8 grammes 20 centigrammes (about 130 grains); it was composed of two very hard central nuclei, surrounded by concentric layers of ammoniaco-magnesium phosphate.

OGSTON ON THE TREATMENT OF CLUB FOOT.—In the *Edinburgh Medical Journal* for December 1878, Dr. A. Ogston advocates manipulation and plaster of Paris as effective means of treating talipes equino-varus. The child is first placed under the influence of chloroform. The surgeon then firmly grasps the foot with his two hands and endeavours to unfold it in an outward direction, while, at the same time, the abnormally projecting points on the outer side of the extremity are pressed inwards by the thumbs. This manipulation must be continued steadily for about ten minutes; when the force is removed the resiliency of the pedal structures will have been overcome, and the position of the foot somewhat improved. Two loops of lead plaster, 18 inches long and one-third of an inch broad, are now required to keep the foot in its new position; one of these is passed over the ball of the great toe for the purpose of traction in an outward direction, the second loop is carried round the foot over the ankle, and is needed for pulling the foot inwards. An assistant, standing at the side of the patient, draws the toe strap with his right hand and the ankle strap with his left. A plaster of Paris bandage is now applied to the foot and leg, previously enveloped in flannel, the toes being uncovered. This bandage is left on for six weeks and is then removed. Again the whole process is repeated, the repetition being necessary at regular intervals of six weeks until the varus has disappeared; four applications, on an average, are needed. Attention is now directed to the tendo-Achillis, which, up to this point, has not been interfered with. Tenotomy is performed and the foot brought into a state of dorsal flexion. A loop of plaster, crossing the balls of the toes, serves to maintain this position until the plaster of Paris is applied as before. This bandage is left on the same time as the others, and four applications generally cure the equinus. This plan of treatment is inexpensive and is very suitable for the poorer classes.

VON BRUNS ON A CASE OF EXTIRPATION OF THE LARYNX.—Dr. Von Bruns relates (*Wiener Medizinische Presse*, November 17th, 1878) the case of a shoemaker, aged 54, who in 1873 began to suffer from pain in his windpipe; this gradually assumed a sharp burning character, and was accompanied by dysphagia, dyspnoea, paroxysms of coughing, and almost complete loss of voice. When he first came under notice, January 3rd, 1878, the breathing was laboured and whistling, the voice could be hardly described as an intelligible whisper. Acute bronchial catarrh was present and the man could take but little nourishment. An examination with the laryngoscope revealed the presence of an obstructing epithelial carcinoma, in a state of ulceration, filling the whole lumen of the larynx, with the exception of a small irregular opening, through which the air passed. The carcinomatous nature of the tumour was verified

by the microscope. After some consideration it was decided that excision of the whole larynx afforded the patient the best chance of recovery, and, on the 29th of January, the operation was undertaken. Tracheotomy was not performed at the commencement, and the larynx was taken out from below upwards instead of from above downwards. An incision was made from the lower jaw to the sternum in the median line, and the deep dissection continued until the hyoid bone, the thyro-hyoid ligament, the thyroid cartilage, and the upper rings of the trachea, were laid bare. The perichondrium of the thyroid cartilage was raised as far as the cornua, and the neighbouring muscles reflected; the same steps were taken with regard to the cricoid cartilage, and so the entire larynx was fully exposed. The trachea was next opened at its upper rings, and Trendelenburg's tampon inserted. After this the larynx was pulled forward by means of hooks, and dissected out. There was no very great amount of bleeding. The operation occupied forty-five minutes. The patient was in a state of collapse when first placed in bed; this was followed by high fever lasting a week. On the 1st of February an ordinary tracheotomy tube was inserted into the windpipe. A fortnight after the operation this was replaced by a thick caoutchouc tube, the patient being able at this time to leave his bed with his general health much improved. In five weeks Gussenbauer's artificial larynx was tried, and with the aid of this instrument the man soon learnt to speak in an audible falsetto monotone.

PATTERSON ON SARCOMA OF THE HAND.—Dr. Patterson relates (*Glasgow Medical Journal*, Nov. 1878) the case of a joiner aged 56, who was under his care in the Glasgow Western Infirmary. Two-and-a-half years ago a soft, flat, superficial enlargement was noticed on the knuckle of the left middle finger. In the first six months this attained the size of a marble and was accompanied by slight but constant pain. In the second six months the growth remained stationary. At the end of this period, after exposure in frosty weather, an increase in size and a return of pain were noted. Development was slow but certain up to within six months of admission, when the growth became rapid, assuming a knotted lobulated appearance, the skin covering it becoming discoloured and the pain was intensified. On admission to the Infirmary (May 31, 1878) the tumour occupied the whole of the back of the hand, was firm and fixed to the deeper structures. Measurement showed that at the thickest part there was an increase of $5\frac{1}{4}$ inches in the circumference of the affected hand. The proximal phalanges of the second, third, and fourth fingers, the corresponding metacarpal bones, and the fifth in addition, were implicated. The second and third metacarpals were widely separated by the growth, which, between these bones, appeared in the palm of the hand. The surface of the tumour was devoid of hairs, but a number of blisters were scattered over it. The forearm was thickly covered with hair, and the veins were much enlarged; a few superficial nodules could also be here detected. The lymphatic gland above the elbow was indurated, but those in the axilla were unaffected. Amputation at the junction of the lower and middle thirds of the humerus was performed on June 12. He was made an out-patient on June 26. Examination showed the tumour to be a fasciculated sarcoma.

T. F. CHAVASSE, M.D.

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- SIMON.—Use of Quinine in Diseases of Children. (*Progr. Méd.*, No. 51.)
- MARYNOWSKI.—Salicylic Acid as an Anthelmintic. (*Allg. Med. Centralbl.*, No. 102.)
- REYNAULD.—Notes on the Effects of the Leaves of Antiaris. (*Gaz. Méd. de Paris*, No. 51.)
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- PALLEN.—Hypodermics of Coffee in Cases of Morphia Vomiting and Opium Poisoning. (*N. Y. Med. Rev.*, No. 25.)
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- HAMILTON.—Warm and Hot Water in the Treatment of Lacerated and Contused Wounds. (*Ibid.*)
- ZEISSL.—Treatment of Syphilis. (*Allg. Wien. Med. Zeit.*, No. 1.)
- KLEBS.—Therapeutical Observations. (*Ibid.*)

RALFE ON THE EFFECT OF BICARBONATE OF POTASH ON THE ACIDITY OF THE URINE.—Dr. C. H. Ralfe, records in the *Lancet*, November 1878, p. 651, a series of observations proving the correctness of previous observers, who had found the acidity of the urine greater the day following the administration of bicarbonate of potash. Dr. Ralfe found the effect of the bicarbonate of potash, taken after food, on the acidity of the urine, was different to that when it is administered before meals. The tables given, show that when taken on an empty stomach, the acidity, on the day administered, was only slightly depressed, whilst, on the day following, the acidity was considerably higher than it was the day before the salt was taken. When administered, during the process of digestion, the acidity of the urine entirely disappeared; twice being neutral, once alkaline, whilst on the succeeding days there was no marked increase in the urinary acids, as compared with the days preceding the experiments. The same difference, too, was observable in the hourly variations of the urine, for, when the bicarbonate was taken before meals, its effects passed away in two hours, and the urine became as acid as it was previous to the use of the alkali; taken, however, after meals, the urine retained its alkalinity for four hours, and no recovery of acidity was noticeable. Hence we may assert that, an alkaline bicarbonate, upon an empty stomach, increases the acidity of the system, whilst, after a meal, it diminishes it.

The explanation that Dr. Ralfe offers for this difference in the effects, according to the time of administration is, that the alkaline bicarbonates are acid salts, and are decomposed by the neutral phosphate

of sodium in the blood, acid sodium phosphate being formed, which is expelled in the urine. An alkaline bicarbonate taken before meals passes undecomposed into the blood, and causes an increased acidity of the urine. If taken during digestion, the acid contents of the stomach decompose it, carbonic acid being liberated per os, whilst the alkaline bases pass into the system and cause the urine to become alkaline.

The therapeutical value of these observations is evident—1. In cases of acid dyspepsia, as in lithæmia, the alkaline carbonates must be given after food and not before. 2. When the stomach itself is loaded with free acid, the result of fermenting undigested food or mucus, then, the administering of an alkaline before meals will, by diminishing the high acidity, aid the digestive functions.

RICHARDSON ON THE CAUSTIC ALCOHOLS.—Dr. B. W. Richardson brought before the *Medical Society*, in October, the value of the ethylates of sodium and potassium as caustic agents (*Lancet*, November 1878, p. 654). When the caustic alcohol is applied to dry tissues no change takes place, but so soon as the part gives up a trace of water, sodium hydrate and ethylic alcohol are formed and the part is gradually destroyed by the caustic alkali. The action of the potassium alcohol is much more energetic than the sodium compound. On the blood, the action of ethylates is extremely rapid and marked; the red corpuscles being brought into solution and forming almost instant crystallisation of the blood, singularly like those crystals described by Dr. R. Mead as occurring in the blood after adder bites. The white corpuscles, on the other hand, appear but little affected. Dr. Richardson has found the caustic alcohols, particularly the sodium alcohol, of great value in cutaneous nævi, lupus, and malignant ulcers.

RICHARDSON ON THE THERAPEUTICAL VALUE OF OXYGEN.—Dr. B. W. Richardson, in his Lectures on the Positive in the Remedial Art, gave the results of experiments made with oxygen gas (*Lancet*, November 1878, p. 749). In order to ascertain what direct influence the gas had on muscular irritability, the neutral gas was injected into the arteries of animals recently dead, and the muscles tested by Faradaic currents, *quoad* their irritability, as compared with muscles of the same animal that were cut off from the influence of the gas. At a temperature of 55°, the influence of the gas was nil; at 75° it increased the irritability to such an extent, that the slightest excitation called it forth; this lasted but a short time, and hastened the permanent rigidity of the muscular fibre. Easy though it may appear, yet it is not feasible to surcharge the living body with oxygen. In a case of Dr. Mayne's, however, nature performed the experiment for us, by causing the blood, after it passed from the lungs, to re-enter the right side of the heart, so that blood, surcharged with oxygen, was always passing around the circuit of this patient's body. The result was she was always bathed in perspiration, her muscular power was greatly reduced, the nervous power being equally feeble, and death suddenly occurred at twenty-one, after some simple act of exertion. Dr. Smith, of New York, who has had great experience among workers in coffer dams, where the atmospheric pressure is greatly increased, finds the hours of working to be inversely to the pressure, because, the more condensed oxygen is forced into the blood, the sooner do the muscles lose their irritability.

At present, although we do not know the full positive value of oxygen therapeutically, we know that when there is an excess of oxygen in the blood, it acts as a relaxant, especially if the temperature be raised. Hence profuse secretion is produced from all the glandular system, with relaxation of all voluntary and involuntary muscles, followed by nervous exhaustion. Hence for all excess of activity of nervous action, leading to spasms, oxygen is a positive remedy. In spasmodic asthma, combined with nitrite of amyl, where the dyspnoea is purely spasmodic, warmed oxygen gas gives the most marked instant relief, the only difficulty being to combine the warm gas with the nitrite of amyl in such a manner as to have them always ready at hand when needed. In tetanus, Dr. Richardson saw Sir James Paget use the gas at St. Bartholomew's Hospital with marked success. The patient was bathed in sweat and all his muscles were relaxed. The value of elimination taking place as well as relaxation of the spasm, is well seen in strychnine poisoning. Nitrite of amyl relaxing the spasm; but without oxygen inhalations the poison remains uneliminated, and the spasms return so soon as the effect of the drug passes off. Oxygen, properly used, both relaxes and eliminates. The above facts explain why excess of oxygen, in phthisical blood, would be injurious, for although the respiration would be easier by spasm being relaxed, yet would it "strew flowers to the grave" by increasing waste and causing nervous exhaustion.

MACKEY ON SPIRITUS JUGLANDIS IN VOMITING.—Dr. Edward Mackey in the *Practitioner* for December, p. 403, adduces cases in support of the great value of this drug in the treatment of vomiting after failure of other means, drachm doses, every three or four hours, quickly relieving urgent cases. [In the *Lancet*, January 1866, p. 55, Dr. Cork urged upon the profession to give this remedy a more extended trial, seeing that in his own hands, and also in the practice of his friend Dr. Parker, the results had been most gratifying.—*Rep.*]

DREW AND LEARED ON SODA SALTS AND ALCOHOL IN TREATING GOUT AND RHEUMATIC GOUT.—Mr. Joseph Drew, in the *British Medical Journal*, November 1878, p. 689, reports a case where the beneficial effects of withdrawing all alcoholic fluids and soda salts were most marked. For a year the patient had totally abstained from alcohol in any form, with the result of being free from any attack of gout and feeling better than he had done for twenty years. Still there was thickening and stiffness about the phalanges, and the idea occurred to Mr. Drew whether soda had anything to do with keeping up the mischief, therefore, as an experiment, all soda salts were banished from the dietary. The result was that, in four or five weeks, rings, that could not previously be worn, were easily borne, the phalangeal bones having returned to their primitive size and shape.

Dr. Arthur Leared, commenting upon Mr. Drew's case, p. 765, questions the rôle that absence of soda salts played in the treatment, although perfectly agreeing with the statement that the entire disuse of alcohol always breaks the force of gouty attacks, and, in a fair proportion of cases, virtually annuls the disease. At p. 132 Mr. Drew replies to Dr. Leared, reiterating and confirming his views regarding soda salts.

[Regarding the influence of alcohol upon gouty habits; in the *Lancet*, November 1871, p. 727, Mr. Bennett of Winchester, is reported to have stated, as the result of thirty-seven years' practice, that he had never

known any one, who abstained from alcohol two years, fail to be radically cured of the gout, no matter what he might eat, and quotes the authority of Dr. Garnett, who practised in London more than a hundred years ago, for a similar experience. In the *Medical Times and Gazette*, May 1876, p. 544, Mr. Jonathan Hutchinson, in a lecture on the heredity of gout, notes a case in which attacks occurred in a zealous (home) total abstainer, *only* on his return from the continent after indulging in the light wines of the country. Dr. Norman Kerr and others, however, report, in the *Lancet*, October 1876, p. 524, a few exceptional cases where attacks of gout occurred in old men who had been total abstainers all their lives.

Dr. W. M. Saunders, R.N., personally testifies in the *Lancet*, October 1876, p. 563, to the curative results following total abstinence from alcoholic fluids in one who inherited gout both from his father and maternal grandfather.—*Rep.*]

HIME ON NUTRITIVE ENEMATA.—Dr. Hime, in the course of some remarks on ovariectomy (The *British Medical Journal*, November 1878, p. 799) gives some valuable directions upon this subject. The use of Leube's formula of two-thirds beef and one-third freshpig's pancreas is preferred. [A good review of Leube's work, *Ueber die Ernährung der Kranken vom Mastdarm aus* may be consulted in the *Lancet*, Oct. 1872, p. 529). The prepared mixture is passed high up the bowel by means of Dr. Beirne's tube, aided by gravitation, instead of being injected as ordinarily, and then the large intestine is enabled to retain and digest much of the preparation.

RICHARD NEALE, M.D.

SANDFORD ON CHLORAMYL: A NEW ANÆSTHETIC.—In a letter to the *New York Med. Record*, Dr. Sandford advocates the use of chloramyl, a mixture of chloroform and nitrate of amyl. From experiments upon animals he has come to the conclusion that this combination is far safer for general anæsthetic purposes than chloroform uncombined, and "so far as tried, it seems to be fully as safe as sulphuric ether, and far more pleasant in its administration, possessing all the advantages of pure chloroform without its dangers". He states that, "in exhibiting chloramyl the patient's face becomes flushed much sooner than with chloroform; but press the drug right along and the countenance does not become pale. Both heart's action and respiration are kept up thoroughly throughout the anæsthesia". Dr. Sandford claims for chloramyl that it prevents the approach of danger both by syncope and asphyxia.

The formula he uses is Squibb's chloroform, Hj; nitrite of amyl, 2 drachms. He suggests that the amount should be diminished in long and tedious operations.

[The reporter has made a trial of this mixture in ten cases. The anesthesia was quickly produced, without much excitement in any case; but three suffered nausea afterwards, and two of them vomited and remained for an hour much in the same condition as if chloroform alone had been given. It appears to be similar in its action to that of a mixture of chloroform and ether; but as the vapour is less pungent the patients generally breathe it without resistance. It is much too soon to pronounce upon its relative safety.—*Rep.*]

J. T. COOPER.

STOLNIKOW ON CHANGES PRODUCED BY HOT OR COLD BATHS IN THE SENSIBILITY OF THE SKIN.—From a number of experiments conducted

with great care, Dr. Stolnikow (*Petersburg. Med. Wochenschrift*, 1878, Nos. 25 and 26) has obtained the following results.

Hot baths of 86° to 89°, lasting from ten to twenty minutes, sharpen the tactile judgments of the skin, while cold baths lasting the same time as above blunt it.

Sensations of temperature are much lessened by hot baths, and accordingly increased by cold ones. The electro-muscular contractility and muscular sense are also heightened by hot water and lowered by cold water; whilst sensations of pain and faradic contractility of the skin undergo the opposite changes.

ADAMKIEWICZ ON THE RESTITUTION OF SENSIBILITY.—The author's intention (*Verhandl. der Physiol. Gesellsch. zu Berlin*, 1878, No. 10, and *Centralblatt für der Med. Wis.*) was to repeat the experiments which had been performed by several French physicians, viz., to remove the anæsthesia of hysterical patients by metallo-therapy. He applied successively a certain number of metallic plates, but did not succeed. As the French authors, however, had observed that the skin was reddened in those places which had regained their sensibility by the influence of the metals, Dr. Adamkiewicz resolved to try if irritation of the skin could bring back sensibility even in such cases where it was very much lowered, but the sensory nerves still remained in communication with the brain. Mustard plasters were accordingly applied to deeply anæsthetic spots of the skin, and succeeded in removing the anæsthesia. This, however, only applied to the regions which had been reddened by the irritation produced by the mustard poultice. In some cases the sensibility lasted as long as the redness, but in others both disappeared at the same time.

DUBOIS ON THE TREATMENT OF DISEASES OF THE COLON.—Dr. Dubois (*Schweizer Correspondenzblatt Memorabilien*, 1878, ix Heft.), after giving a rapid enumeration of the diseases of the colon where it is indicated to inject large or small quantities of water, adds some practical hints on the different ways of administering the fluid. There are two different kinds of enemata employed. 1st. The simple enemata, which are used in cases of constipation when it is found necessary to remove fecal masses from the sigmoid flexure, the cæcum, or the rectum, in cases where the mucous membrane of the rectum is diseased, and it is indicated to bring it into contact with water or medicine; 2nd. Very large enemata, which will be found efficient in cases where the water ought to be injected high up into the large intestines, or whenever there exists a catarrhal affection of these portions of the intestines. Some patients can bear, without incurring pain or danger, enemata of 1000 to 1500 cubic centimètres of water, but in others such a large volume of fluid would either prove very dangerous to the intestines, or could not be injected on account of the great irritability of the intestinal muscles. In such cases, where it is of obvious necessity to inject a large bulk of liquid, the author advises the following method.

Tepid water is injected till the patient feels a violent strain. The syringe is then removed, and the patient slowly changes under the bed-clothes from his right or left side to crouching on his knees and elbows. After one to two minutes, the former position is again assumed for a short time, and then the patient lies down upon his back. The same opera-

tion and changes of posture are then repeated, and defæcation generally ensues in about ten minutes or half an hour after the injection has been given.

This method is indicated—*a*, in cases of constipation where purgatives and the usual enemata can either not be given, or have proved powerless; *b*, in cases of coprostasis where faecal tumours, varying in size, can be felt in the cæcum or other parts of the large intestine, and have sometimes been mistaken for ovarian cysts. Here purgatives given by the mouth are either vomited or have no effect; *c*, it is well known that inflammations of the vermiform process are mostly caused in healthy individuals by accumulation of fæces. Whenever, therefore, a slight tenderness and increased resistance are felt in the iliac region, especially in persons who have suffered from typhlitis before, a bulky injection will be found very useful in preventing the inflammation and removing the fæces. Narcotics should also be used in those cases; *d*, in cases of general or local peritonitis, when constipation and accumulation of gases in the abdomen have been produced by paralysis of the intestinal muscles; *e*, in cases of diarrhoea caused by obstipation or accumulation of fæces; *f*, in abscesses of the intestines, dysentery, etc.

LIEBIG ON THE RISE AND FALL OF TEMPERATURE AND FREQUENCY OF THE PULSE CAUSED BY TEPID BATHS.—In order to ascertain the exact alterations of temperature which are caused by baths, Dr. von Liebig (*Aerzte Intelligenzblatt*, 1878, Nos. 23 and 24) made a great many experiments on himself which gave the following results.

During a tepid bath of 89°, which lasts for thirty minutes, the frequency of the pulse is very little lessened, but goes on decreasing during half an hour to one hour after the bath, which time corresponds to the chill that is always experienced after bathing. The temperature taken in the mouth rose a little during the bath, and sank after it, being lower two hours after the bath than it had been before it. The curves of the pulse, which were taken about an hour and a half after the bath, showed a slight deviation from the normal curve, the highest point of the ascendant stroke being flattened, and re-ascend of the down stroke entirely deficient. This is explained by the arterioles being contracted by the cooling of the skin, and thereby increasing the resistance in the arteries. The diminished frequency in the pulse may be traced to the same origin.

The elevation of temperature during the bath is caused by the decrease in the loss of heat. The increased expiration of carbonic acid is explained by the fact that during the bath the lungs are not subject to the pressure of the water, the blood circulates more quickly in them. The skin is stimulated in different ways during a bath. These are temperature of the water, pressure of the water, suppression of the exhalations of the skin, and in salt water the osmotic influence. On leaving the bath, these effects of stimulation are of course changed.

GRELLEY ON A REMEDY FOR HICCUP.—Dr. Grelley (*Lyon Méd.*, No. 51) has observed that hiccup in children was immediately stopped by giving them a lump of sugar saturated with table vinegar. The same remedy was tried on adults with similar instantaneous success.

Another remedy, which may even be considered more handy, was mentioned by a Russian priest to a lady, and has always proved very efficacious. It consists simply in looking fixedly for about five

minutes at the blade of an open penknife, without either speaking or laughing. The remedy has been tried innumerable times, and has never proved unsuccessful.

MAELER ON CHRONIC DYSENTERY TREATED BY A SOLUTION OF ALUM.—The patient (*Allg. Med. Centr. Zeit.*, No. 102), a workman, aged 48, had been suffering for some time from repeated attacks of dysentery, which were combined with violent colic. The motions were liquid, and contained a great quantity of pus, mucus, and blood. The cause could not be detected by examination of the rectum and palpation of the abdomen. The patient was then treated with a solution of alum, which was injected into his bowels immediately after each evacuation, and which he was directed to retain as long as he could. This remedy proved successful, the patient only complaining of a burning pain in the rectum, while it was being thrown up, but feeling much relieved afterwards. The motions then gradually began to present a better appearance, no more blood or pus was noticed in them; they became more solid, and a fortnight after the first injection had been administered, the patient was dismissed as cured. The strength of the solution was four teaspoonfuls of alum to a pint of water.

ABBOT ON VIBURNUM PRUNIFOLIUM.—Dr. Abbot, in a paper read before a medical society (*Boston Medical Journal*, Nov. 14), spoke of a remedy which he had lately employed with much satisfaction in dysmenorrhœa. It is well known, he said, that a secret remedy, called "Hayden's viburnum compound", had considerable reputation in these cases. Being unwilling to use the secret remedy, he experimented with a fluid extract of viburnum, with very satisfactory results. He had used it in six successive cases within the past two months, with entire relief in every instance. In one case there was not a particle of pain after the first dose. He had given a teaspoonful every second hour until relief was afforded, and it had required from two to six doses. To some patients the taste was not very agreeable, but this could easily be remedied by the addition of some aromatic. He thought it would be well to begin with the dose of two teaspoonfuls in an urgent case, and follow it up by teaspoonful doses every hour until the pain is relieved. Dr. Abbot's subsequent experience confirms thus far his favourable impression of this drug.

Dr. Curtis added his testimony in four cases, two in single women, one in a married sterile woman, and one in a woman who had borne two children. All got the greatest relief, the last one in particular, in whom he had previously tried everything, including morphia. Two doses gave entire relief.

Dr. Lyman reported four cases in which he had tried the remedy; one patient said she was somewhat relieved; one that she was entirely relieved, while the other two were not certain that they had been benefited in any degree. He began the administration one week before the expected flow.

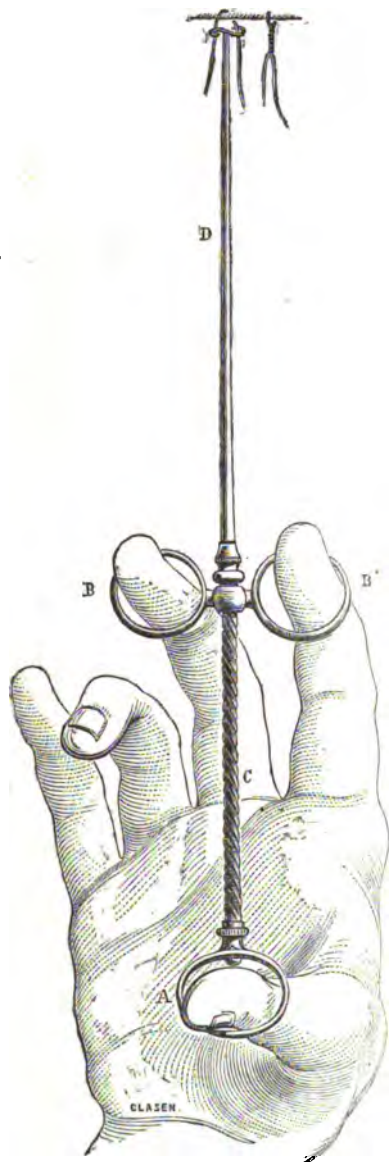
Dr. Chadwick had made extensive use of the drug, chiefly in spasmodic dysmenorrhœa, and had obtained relief in many cases. It seemed to act as well as, but no better than, valerianate of zinc. In his dispensary it had been administered to fifty patients with a large percentage of good results, but not so invariably successful or brilliant as those announced.

NEW INVENTIONS.

CLASEN'S NEW INSTRUMENT FOR
FIXING THE CORDS OF METALLIC
SUTURES (TORDS, FILS).

This instrument, of which we give here an illustration consists of the following parts :—

1. A tapering rod D, to the point of which is fixed



either Dr. M. Sims's or a disc with two holes. 2. A spiral column C which is so constructed as to turn on its own axis by aid of the movable ring A. 3. A screw, having the two rings B and B attached to it laterally, and moving freely on the column C.

With the aid of this instrument, the operator is enabled firmly to fix the ends of metallic sutures : after having drawn the metallic thread through the

sides of the wound, both ends of the thread are passed through the rings of the s or the holes of the disc, whichever be used. He then holds them firmly in this position with his left hand, and with his right brings the three rings we have mentioned above nearer together. This causes the rod, surmounted by the disc or s, to rotate quickly, thereby uniting both ends of the metallic thread.

A HYPODERMIC SYRINGE WHICH IS
ALWAYS READY.

Professor J. T. Whittaker describes in the *Lancet and Clinic* a new modification of the hypodermic syringe made at his suggestion by Mr. Wm. Autenrieth, of Cincinnati, which is illustrated in the adjoining figure. The essential feature of the instru-



ment is a screw cap, like the one used to connect the needles with the syringe, but which is closed, so as to retain in the syringe a drop or two of fluid. This serves to prevent the leather packing of the piston from becoming dry and losing its power of suction, and likewise it avoids the other fault of a loose piston, viz., the passage of the fluid above the piston when the latter is pushed down, thus preventing any accurate knowledge of the amount injected.

MISCELLANY.

THE LIGHTING OF STUDIOS AND PICTURE GALLERIES.
—Professor Barff, M.A., recently delivered a lecture on Light and what kind of artificial light is best adapted for studios, picture-galleries, etc., at the Royal Academy. Professor Barff said he wished to show what he considered to be the best gas-burner which could be used, the Silber burner, which the inventor had now brought to a state of great perfection. By the use of this patent, the exact amount of air was allowed to enter the burner which experience had shown had the effect of producing the brightest light by absorbing the carbon in excess. Professor Barff then compared the effect produced by an ordinary Argand burner with the light emitted by the Silber burner, clearly demonstrating the superiority of the latter. It was also very important to mention that the Silber burner reduced the amount of sulphuric acid and acetelene thrown off by gas to a minimum, these two gases being so deleterious in their effects upon pictures, books, and furniture.

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THE Thermal Station of Royat was much frequented by the Romans. It is situated in a beautiful valley, near to the large town of Clermont-Ferrand, at the foot of the Dome Mountains, the picturesque and remarkable extinct volcanoes of Auvergne, and is the natural point of departure for various delightful excursions.

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TREATMENT OF NEURALGIA.—Letter from Mr. METCALF JOHNSON.

[To the Editor of "THE MEDICAL TIMES & GAZETTE".]

"SIR,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is to my mind so likely to afford relief to suffering humanity that I do not feel justified in withholding it. The treatment consists in painting the part affected with 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelseminum and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

"J. P. called one morning, suffering from facial Neuralgia in all the four points of the surface development of the facial nerves. I painted his face over the four spots, and before the liquid was dry his pain was gone. It returned the next day, but was again relieved by the remedy, the relief lasting for twenty-four hours.

"I met A. B. in the street, who was complaining of an obstinate Neuralgia, which had resisted several of the usual remedies. A trial of the treatment here indicated was attended with immediate relief.

"It has been tried, I believe, at my suggestion by one member at least of the family of three of my professional brethren.

"A patient suffering from podagric Neuralgia of the forearm finds such relief that frequent resort is had at night to the use of the painting with the ANODYNE COLLOID.

"A few days since, a lady suffering from that painful affection called 'soft teeth', caused by caries, and in whose case considerable swelling was apparent, found immediate and permanent relief by painting the cheek with the remedy.

"A clergyman, of a very high nervous organization, and in whom, as is often the case, considerable strength of mental power is developed, described the relief which was obtained by the use of both the remedies as 'like magic'. In several other instances, of which I have kept no record, relief has been obtained by the use of one or both remedies.

"Hoping this will induce more of your readers to try the remedies suggested, I leave the case in your hands, merely adding that the ANODYNE AMYL COLLOID professes to be a solution of Aconitine and Veratrine with Hydride of Amyl in a medium of Collodion; but the proportions are not stated. The Tinctures of Gelseminum and Guarana are in all probability better known to your readers. I have, at the request of Messrs. FERRIS and Co., already given them my testimony to the value of their preparation, in a letter addressed to them a few weeks ago. If you will kindly insert the few remarks in your paper, I think you will oblige many of your subscribers, as you will also,

"LANCASTER, May, 1878."

"Yours, etc.,

METCALF JOHNSON."

From "THE MEDICAL RECORD", London, May 15th, 1878.

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—Prof. SPIEGELBERG, *University of Breslau.*

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"I have used the Hunyadi János water in many cases of the rheumatic and gouty diathesis with very marked benefit. In cases accompanied with great obesity I prefer it to any other laxative."—Prof. LEWIS A. SAYRE, M.D., *Bellevue Hospital, New York.*

"Preferred to Friedrichshall and Pullna by those who have tried them."
—Prof. AITKEN, F.R.S., *Netley.*

"Of great use in catarrhal conditions of the bile-ducts and bowels, and for CONGESTION of the LIVER and OTHER ORGANS."—*Medical Times and Gazette.*

3. In chronic affections of the organs of respiration and circulation.

"Produces remarkable relief in chronic diseases symptomatic of affections of the abdominal and thoracic organs, and in serous effusions with impediment of respiration and circulation."—Prof. ALOIS MARTIN, *Royal Medical Councillor, University of Munich.*

4. Against hæmorrhoids, and portal and hepatic congestion.

"The most certain and the most comfortable in its action of all the aperient waters. The special indications for its use are, in costiveness (especially in that of pregnancy), in portal congestion with tendency to hæmorrhoids, and in sluggish action of the liver."—Inspector-General MACPHERSON, M.D., *Author of "Baths and Wells of Europe".*

5. During pregnancy; for nursery use; and in many female disorders.

"I prescribe none but this."—Baron v. SCANZONI, *Wurzburg.*
"I prefer this to any and every other."—Dr. MARION SIMS, *New York, Honorary Fellow Obstetrical Society of London and Dublin.*

6. In bilious attacks and sick head-aches.

"I have made use of Hunyadi János mineral water ever since its introduction into this country, and with ever increasing satisfaction. It is highly beneficial to persons of sedentary habit, and in what are called bilious attacks."—Dr. SILVER, *Lecturer on Clinical Medicine, Charing Cross Hospital.*

7. Against evil consequences of indiscretion in Diet.

"Has invariably good and prompt success: a most valuable item in the balneological treasury."—Prof. VIRCHOW, *Berlin.*

For ordinary aperient purposes a half wineglassful of the Hunyadi Water may be taken at bed time, or a wineglassful in the morning fasting. It is most efficacious when warmed to a temperature not below 60 deg., or when an equal quantity of hot water is added to it.

HUNYADI JÁNOS MINERAL WATER.

The London Medical Record.

CONTRIBUTION TO THE HISTORY AND SYMPTOMATOLOGY OF AORTIC ANEURISMS.

By Dr. SCHEELE, of Dantzig.

(Concluded.)

CASE III. Aneurism of the Aorta Abdominalis. Pain in the loins and gastric region for a year. Dyspepsia, sometimes dysuria. Latterly, deglutition difficult. Death, with symptoms of internal hæmorrhage. Abundant blood-clot in peritoneal sac. Aneurism of the abdominal aorta as large as a man's fist. A perforation one-sixth of an inch long.—The patient, a male, skinner and leather-dresser, 43 years of age, as a child had measles and intermittent fever. When he was 26, he got a soft chancre with [consecutive right-sided bubo, which suppurated and was incised. The cure of this affection took place in a week. Later on, he did not notice any exanthem, nor did he even complain of rheumatic pains. He married twelve years ago, and had one living healthy child. The beginning of his disease he reckoned from September 1874. He had then undertaken a large order, and was, therefore, obliged to aid his workmen much in the work. The work required him to bend over a large board and scrape the leather with a rasp. He had to stand bent, with the board pressing against his epigastrium. When at this work, he suddenly felt a severe pain in the loins and both groins, so that he could "not draw his breath", and was put to bed groaning. He believed himself "ruptured", and had himself stretched, the consequence of which was that the pain became worse. Under antiphlogistic treatment, with cupping, the pain somewhat abated, but frequently returned since that time with its former severity. It was accompanied by acute gastric pain. In course of time, the pain began to prevent sleep. Sharp movements especially evoked the pain; also eating indigestible food. He had not had vomiting; eructations, apparently, relieved him. His appetite was not impaired. Defæcation was retarded, and, as straining increased the pain, was procured by means of medicines and enemata. He had tried the most different treatments without effect. There was a "hammering" sensation in the epigastrium. On lying down in bed, the pain was as often increased as diminished. The most bearable position for the patient was sitting up, crouched, and sometimes lying halfway on his left side. In May 1875, without any cause, dysuria supervened. Micturition was difficult and painful. The patient was catheterised repeatedly. A stricture was, apparently, not discovered. In June and July he was galvanised down his back for a long time. On August 7th, he summoned me to a consultation as he had been told he suffered from an incurable cancer of the stomach.

Condition on August 7th, 1875.—He was a dark-complexioned, pale man, with a pained expression of countenance. The visible mucous surfaces were very anæmic. The temperature to the touch was not raised. Pulse 104, of moderate strength, tension, and height. There was no rash or œdema.

In the right inguinal region was a scar an inch long. The lymphatic glands were not swelled there, nor in the neck or elbow. In the sitting posture there was a strong pulsation in the epigastrium. There was pretty noticeable diffuse cardiac thrill. The apex-beat was scarcely visible, but could be felt in the sixth intercostal space, moderately high, and resistant. The thorax was long, its movements very slight. The lung-limits lay on the upper border of the seventh rib. The cardiac dulness was a little diminished. The lung-limits were little movable, reaching behind in the thorax to the eleventh rib. The patient could not submit to more careful examination of the thoracic organs. The epigastric pulsation was still very strikingly pronounced. It did not lie quite in the scrobiculus cordis, but more to the left, situated under the left costal margin, while, to the right of the linea alba, it soon lost its intensity and seemed sharply limited. The patient groaned at very moderate pressure on the epigastrium. By gentle palpation, a distinct pulsating tumour could be made out to the right, and bounded opposite to the umbilicus. Towards the left hypochondrium it was lost under the costal border, but was so far distinctly circumscribed. The pulsating tumour extended equally on all sides. Careful palpation between the xiphoid process and the umbilicus detected a feeble thrill synchronous with the pulsation. The tumour measured $2\frac{1}{2}$ inches in breadth and 3 inches in length. Over the whole pulsating area the percussion-note was dull, tympanitic. The liver dulness was not to be separated from the cardiac dulness. Deep inspiratory movements did not push down the tumour, but it became more distinct, and careful palpation permitted the discovery of the border of the left lobe of the liver overlying the pulsation. On laying the patient upon the left side, the tumour was not displaced, but the heart's apex moved further outwards. In the position *à la vache*, it did not disappear; also, on contraction of the recti abdominis, the superimposed hand felt in both cases the deep-lying beating. Auscultation, the stethoscope being applied very lightly over the pulsating spot, allowed a distinct, short, deep systolic murmur, and a low diastolic sound to be heard. The murmur could be followed to the neighbourhood of the umbilicus. Opposite the sternum it became less intense, and, over the xiphoid process was covered by a loud first sound. Over the heart, two pure sounds could be heard, both at the apex and valvular areas. Over the aortic valves was a loud clapping second sound. Behind the thorax to the left of the spine, at the level of the lowest dorsal vertebra, there was a feeble systolic murmur; this became louder and higher by the first lumbar vertebra. The spine was movable at this place, and not tender on pressure; the left lumbar region was rather tender to deep pressure. On comparing the radial and femoral pulses, a difference in time could not be made out with certainty; but there was a difference between the carotid and the femoral pulses. Moreover, the femoral artery was small, the pulse-wave low; while the carotid was large, and the wave high and easily quickened. If both femorals were compressed at one time the patient complained of increased pain in the region of the pulsation. The latter became a little more marked. If the femorals were compressed by an assistant, and the tumour auscultated at the same time, the systolic murmur momentarily disappeared, and, after some time, returned more feebly and prolonged. The *frémissement* completely disappeared in this experiment. In regard to the lungs,

besides moderate emphysema, no morbid condition was to be noted; nor in the liver, spleen, or intestines, was anything of importance observed. The urine was scanty, opaque, acid; specific gravity, 1023, without albumen or any pathological constituents on microscopical examination of the filtrate.

The diagnosis of this case presented no difficulties. The abnormal, strongly pulsating tumour in the epigastrium; the systolic *frémissement* over it, the murmur synchronous with the radial pulse heard to the umbilicus, the difference between the femoral and carotid pulses, from beginning to end, indicated aneurism of the abdominal aorta. Further examination confirmed this view. The chief point to consider was, whether the tumour was not situated above the aorta.

The following points were certainly in favour of the correctness of the diagnosis. 1. The pulsation extended equally on all sides—that is, it was true pulsation. 2. Deep inspiration pushed the left lobe of the liver over the pulsating tumour. 3. The change of position did not displace the pulsation, but it persisted in the *à la vache* position. Still more was this the case, from the evident influence which compression of the peripheral femoral arteries exerted upon the abnormal pulsating tumour, recognisable by: *a.* The heightened pain in loins and gastric region; *b.* The temporary enlargement; *c.* The disappearance of *frémissement*; *d.* The diminished intensity of the systolic murmur, and the change in its character.

I showed this case to Drs. Bramson, Tornwaldt, and Wallenberg, who confirmed my views and observations.

The treatment consisted at first in subcutaneous injections of ergotin (Bonjean), with, at the same time, the quietest possible position and applications of ice. Further on I was induced, by the evident influence of compression of the femoral arteries over the *frémissement* and murmur, to try the effect of systematic digital compression of the femorals, with the object of producing coagulation in the *sac à la Brasdor*, which seemed to me to justify the therapeutic attempt. The pain was combated by morphia injections. All these measures were ineffectual.

On September 29th, 1875, the patient was still more anæmic than before. He complained of great pain in the loins and gastric region, dysuria, difficulty in swallowing, and occasional vomiting. The difficulty of swallowing allowed the patient to get his food down, but gave him the sensation that it stuck somewhere in his chest. He indicated the place as below the sternum. After a time he was obliged to vomit what he had eaten; this happened not only with solids, but also with fluids. Taking solid food was then still followed by quite extraordinarily severe pain. The urinary troubles were chiefly a sensation of distension of the bladder and persistent straining, with inability to voluntarily empty it. Physical examination showed no important change. The systolic *frémissement* over the aneurism had gone. Percussion and palpation of the hypogastrium showed only slight fullness of the bladder. The urine drawn off with the catheter was opaque, acid, and 200 to 300 cubic centimètres in amount. (Examination of the urine at home showed it to be of specific gravity 1028, containing no albumen, and only showing a few epithelial cells from the bladder.)

On September 30th, the difficulties of the patient had still increased. Pulse 126 to 130, very compressible. The extremities, ears, and nose, were cold; he had burning thirst. He was ordered pieces

of ice to suck and morphia injections. That evening he had torturing hiccough.

October 1. *Morning*.—He had orthopnoea, great distress and frequent change of posture, hiccough, nausea. The pulse was scarcely countable at his cold hands, very frequent (about 160). An ice-bag was applied over the aneurism. *Evening*.—He complained of great burning in the belly. The abdominal wall was very tender to the touch. He had continual jactitation.

7.30 p.m.—The patient was not in a state to get up, but perpetually desired to do so. In such an attempt he turned suddenly over, a slight convulsion passed over him, the pupils dilated. Death followed immediately.

The *post mortem* examination was made on Sept. 3rd, 1875, with the assistance of Dr. Wallenberg. There were marked rigor mortis, great anæmia of the visible mucous membranes, and pallor of the thoracic and abdominal muscles. On opening the slightly distended abdomen, a mass of more or less solid blood-clot was seen close to the left lobe of the liver, round the great omentum and the small intestine. The peritoneum was strongly tinged with blood; inflammatory products were not visible. In the true pelvis and lumbar regions on both sides was much blood, partly solid, but, for the most part, fluid. After removing this, the stomach was found almost collapsed, with the subjacent structures glued together by partly decolorised, partly still bloody, partly already organised, but easily detached masses. On opening the thorax, the heart was seen in the usual place. In the pericardium was a little serous fluid. The heart was strongly contracted; the right auricle and ventricle holding a little coagulated blood. The left ventricle was empty. Its muscular substance was about four times as thick as that of the right. The endocardium was healthy; the heart's muscle was strikingly pale. There was no marked atheroma of the semilunar valves. The lungs were full of air, pale, moderately emphysematous at their free margins, and adherent to the costal pleura by slight adhesions. The great arterial vessels were completely empty; the veins contained a very little coagulated blood. The spleen and the kidneys were examined, but showed no pathological change. The liver, with part of the diaphragm, was removed after tying the duodenum; it was pale, but normal in structure. The œsophagus also was tied, and the stomach freed from its attachment below, and turned up towards the thorax. The colon and small intestine were fixed down to the symphysis with a hook; this exposed a large, partly coagulated and organised blood-coloured swelling. On removing the large clot piece by piece, at length there appeared in the axis of the tumour a layer larger than a man's fist. This reached, partly covered by the pancreas, to the arch of the diaphragm and the cardiac end of the stomach. This tumour presented on its left aspect, about 1½ inches below the cardia, a slit-shaped opening about 1½ inches long, the walls of which were slightly ragged, and covered with recent blood-clot. The direction of this rent was backwards, downwards, and inwards. On completely removing the stomach, and detaching the intestine from its mesentery, dividing the pancreas into two halves, the subjoined aorta and the tumour, with its connections, were exposed to view. The tumour occupied the following position.

Beginning close under the arch of the diaphragm, it lay with its upper part against the rising crura of the diaphragm, and reached from the tenth dorsal to

the second lumbar vertebra; it was about $4\frac{1}{2}$ inches long, and nearly $3\frac{1}{4}$ inches broad. The peripheral end reached under the pancreas to above the renal arteries. The vena cava formed the lateral boundary to the right. On slitting up the aorta, an aneurismal sac was found with diverticula, and lined pretty extensively with only very partially organised blood-clots; it was situated upon the left anterior aspect of the vessel, and communicated with it by an opening as large as a two-thaler piece. The communication was at the level of the last dorsal vertebra, and showed at the upper part a sickle-shaped projection. The peripheral end of the aneurism terminated at the renal arteries. The celiac and mesenteric arteries sprang from the anterior wall of the sac. The opening of the celiac artery from the aorta was slit-shaped from atheromatous deposit. The openings for the renal arteries also were much narrowed, especially the left. The superior mesenteric artery was not affected. The left renal vein and left spermatic vein also were not involved, and showed no thrombosis. The entire aorta was very atheromatous, especially in the neighbourhood of the aneurism. The wall of the sac only showed any trace of intima near the communication; farther on, especially near the rupture, this disappeared, and the wall was formed of organised fibrinous layers. The vertebral bodies were quite intact. In the other organs nothing noteworthy was found.

REMARKS.—The results of this examination permit us to analyse even the most minute details of the foregoing description of the disease. It explains the origin of the malady by the localisation of the aneurism, taken together with the etiology, as given by the patient. The seat of the affection was exactly the place in which he was liable, in the exercise of his profession, to undergo repeated more or less violent blows. It is of the highest probability that, on the day in September 1874, when he was suddenly taken with severe pain in the loins, the first step in the formation of the aneurism was taken. With its further encroachment upon neighbouring parts the latter pressure symptoms correspond.

1. The increased tenderness after taking food is explained by the anatomical relation of the diseased portion of the aorta to the stomach. [The constipation may well have been a consequence of the dyspepsia, but, in part also, from the inhibitory influence which the frequently recurring irritation of the splanchnic nerve must have caused (Pflüger).]

2. The final difficulties of swallowing and appearance of stenosis of the œsophagus obviously were due to the compression of the cardia by the aneurismal sac; as, according to Luschka, the aorta at the level of the junction of the ninth and tenth dorsal vertebrae, is just below the œsophageal foramen. The autopsy showed the extension of the aneurism to that point. The reason why this symptom occurred so late depended upon the tendency of the aneurism to grow inwards towards the diaphragm; and, that this was actually the case, was proved by the fact that the aneurism at that part was formed of fibrinous masses only, while there were found the freshest blood-clot and the perforation. Besides, the tendency to grow in that direction is explained by the repeated diminution of resistance on the part of the diaphragm during the process of respiration.

Among the many symptoms the following deserve prominent notice.

1. The phenomenon of prevented urinary secretion was less the consequence of impeded venous

circulation which, from the diminished quantity and the concentration of the urine was reasonably enough anticipated; but, much more, as the *post mortem* examination showed, the consequence of the partial compression of the renal arteries themselves. That neither the inferior vena cava nor the renal veins were involved in any part of their course, was pretty evident, from the absence of any œdema, either in the left half of the scrotum or the lower extremities; moreover, there has never been any trace of albumen. The occasional great desire to make water, with inability to empty the bladder, was a striking symptom. This might at first have been ascribed to the concentration of the urine and its very acid reaction; latterly, to the inability to make use of the abdominal muscles from the increased pain produced by doing so, and the detrusor alone being unable to overcome the contraction of the sphincter, rendered unusually strong from the concentration of the urine.

2. The appearance of notably increased pain in the stomach and loins on suddenly compressing the femoral arteries with the fingers. As in Case II, only still better marked on account of the greater swelling of the aneurism, and the fact that the collateral channels of the renal arteries and the celiac axis had their normal diameters diminished, this phenomenon was quite constant.

3. The diminution of the systolic *frémissement* and murmur on compressing the femoral arteries. Obviously a proof that, during compression of the femorals, the stream in the aneurism became diminished. The further physical sign of the pulse difference in the radials and femorals in this case existing in the carotids and femorals, the systolic murmur over the pulsating tumour, the influence of position, the position *à la vache*, are so frequently and fully described in literature, that I may be allowed to abstain from discussing them. The fatal termination of the case was, as was supposed and later proved, bursting of the aneurism. The short duration of the malady (13 months) has been already noticed, from aneurisms of the abdominal aorta. It is possible that the end may have been hastened in this case by the attempted treatment by digital compression of the femorals; at least, Bryant and Bloxam have seen in a similar case fatal rupture following the application of a tourniquet to the abdominal aorta.

Considering the favourable results which have been stated many times to have followed compression of the aorta, I thought these milder means might be employed without hesitation. Not without interest, finally, is the fatal issue. It was clear that bleeding from the aneurismal sac at first was gradual, as shown by the progressive collapse and the final tenderness of the abdomen. This was confirmed by our finding *post mortem* the partly decolorised, partly very much more organised, clot round the perforation. But the final hæmorrhage was very abundant, quite corresponding with Kussmaul-Tenner's experiments: the patient died in general convulsions.

A close comparison of the above related cases permits us to recognise a certain agreement in many particulars. So far as concerns their etiology, the three cases have a common cause. The chief cause of the affection was the high tension produced in the aortic system by severe bodily exertion.

These data gain in credibility by the results of recent investigations into the origin of circulatory diseases. Of late years, the deleterious influence of

great and frequent muscular exertion on the circulatory organs has often been shown. Thuru, Moiriet, Fräntzel and Seitz, have reported not a few cases of heart-disease, especially hypertrophy and dilatation, the origin of which without doubt was to be ascribed to more or less prolonged muscular exertion. For aneurism, also, this mode of production has been shown in particular cases by Bamberger, Duchek, Greenhow, Uterhart, and others. Lawson, indeed, goes so far as to ascribe the relative frequency of aneurism in the English army to severe bodily exertion in improper clothing. Myers comes to a similar conclusion in his careful statistical inquiry, and says that, in the years from 1863 to 1869, out of 320 British soldiers who had died, 138 times aneurism was the cause of death. These figures are, indeed, very surprising, and the 36 cases of aortic aneurism occurring from April 1st, 1867 to 1869 at Netley, reported by Maclean, out of which number five only could be shown to have a rheumatic, and three a syphilitic, history, scarcely impeach the conclusions of Lawson and Myers. This, also, agrees with the result of Allbutt's experience, "that far from being unimportant, sudden violent exertion is not merely one among many causes of aneurism, but is decidedly the commonest, the most easily understood, and the simplest of all".

If this goes a little too far, still I believe this element in the etiology of aortic aneurism generally receives too little attention. In the small number of cases of this disease which I have carefully observed (and their number, according to my recollection, is only eleven), there were four in which violent exertion was distinctly assigned as the cause. (The fourth case was an aneurism of the innominate, the origin of which was ascribed to the lifting of a heavy beam). I have not sufficient literature at hand to be able to form a careful statistical basis for this hypothesis.

Cases I and II present another very interesting phenomenon. I mean the localisation of the aneurism. Both were at the level of the last dorsal vertebra, close above the aortic foramen. This coincidence does not appear to me to have been accidental. On the contrary, I am inclined to believe that both cases had a similar cause and equal results following. In both cases there was a considerable muscular effort on the part of the patient. Both dated their illness from then; both presented very pronounced and characteristic initial symptoms. If we realise the procedure of muscular exertion, it is not only connected with an increased action of the muscles of the trunk and limbs, but also brings the muscles of respiration, particularly the diaphragm, into temporary energetic tonic contraction.

The next consequence of general muscular contraction is the powerful compression of the small peripheral arteries; and, hand in hand with that, is a decided increase in the resistance to the propulsive force of the heart. The tension of the arteries increases, the blood-pressure in the aorta rises (Hertel and Traube). The anatomical course of the aorta through the opening in the diaphragm makes it very plausible that a stronger tonic contraction of the diaphragm effects a greater pressure upon the distended vessel. We possess an analogy for this in the course of the subclavian artery between the scalenus anticus and median on the inner side of the first rib. I recollect with pleasure a demonstration by my former teacher, Professor F. Goltz, of this anatomical relation and its effect upon the pulse. Goltz explained the intermission of the radial pulse on deep inspiration—not after Weber, by the aug-

mentation of the intrathoracic negative pressure, but by the compression of the subclavian artery by the rib-elevating scapuli. One can very easily transfer this relation to the aortic aperture, and it is easily seen how, a similar compression of the aorta at that point, must lead to stretching of the fibres beyond their coefficient of elasticity to a state of permanent extension, to destruction and disappearance of the muscularis and the formation of an aneurism. All the more easily will this happen if the coat of the vessel has lost its former elasticity by atheromatous degeneration, and, otherwise, the aneurismal dilatation will tend towards that side on which few neighbouring structures exist, as towards the yielding lungs the vessel receives insufficient support. This view is, in my opinion, illustrated by Case III. There was a narrowing of the trunk of the aorta caused by repeated compression of the epigastrium against a board. Finally, an aneurism of the abdominal aorta took place at that spot. Murray and Bahrtdt have published quite analogous cases. In Murray's case, it was a stone turner, whose occupation required him to press an instrument against his epigastrium. Bahrtdt relates the history of a sick-nurse who, by custom, used to carry the dinner tray pressed into her left side. Both individuals acquired aneurisms of the abdominal aorta, which, in their seat, course, and symptoms, were very like those of mine.

Finally, Cases II and III presented a condition which, so far as I know, the symptomatology of aneurism of the aorta has never yet been pointed out. It is the influence of peripheral compression of great arterial stems on the relations of the aneurism. In both cases, the sudden shutting off of the blood from the crural arteries heightened the subjective pain in the region of the aneurismal dilatation. This could only happen through the momentary augmentation of volume and blood-pressure in the aneurism. That such an increase in the blood-pressure above the compressed place takes place on compression of great arterial trunks, has been already by Landois, more recently still by Riedinger, demonstrated by careful sphygmographic investigations.

In Case I I had not directed my attention to this point. It presented such marked symptoms of aneurism that I needed no further assistance in the investigation. Case II, with its obscure features, first led me to it; and, Case III, confirmed the truth of it in a brilliant manner. For not only was there momentary swelling of the aneurism, but also temporary suspension of the systolic *frémissement* and murmur was observed. In how far this phenomenon is constant, and what conditions are essential to its development, from the observation of two cases, I cannot decide. But its significance is important enough to make it interesting, and, if it occurs, as *à priori* may be suspected, with regularity in similar cases, diagnosis will have gained something towards precision by it. Especially is such a contribution useful to the general body of practitioners who have not at hand the entire range of clinical apparatus, and of instrumental diagnostic resources.

ROBERT SAUNDBY, M.D.

FABRE ON ADDISON'S DISEASE.

DR. S. PAUL FABRE reports in the *Union Médicale*, of December 24th, 1878, and two following numbers, "Clinical considerations *à propos* of two cases of Addison's Disease". The substance of the commu-

ion is as follows : Addison's disease is still the object of so much controversy that it behoves every one to contribute towards its settlement. In my opinion there is unquestionably a group of symptoms which merits the name of Morbus Addisonii. The signs present are, so to speak, problematical, and the clinical signs, therefore, will alone receive attention in these two cases.

Amenorrhœa, Asthenia, Diarrhœa, and Vomiting; Greyish-brown Discoloration of Skin; Pulmonary Tubercle (?) Death in Ten Months.—A married woman, aged 36, living in a small hamlet in the neighbourhood of Commentry, had always enjoyed good health till her present illness. She had once recovered from intermittent fever. Her family history was good, and she gave no indications of either syphilis or syphilis. She was to a great extent a vegetarian. Her fifth child had been weaned eighteen months, but her catamenia had not yet returned—this is an unusual thing for her, from four to six months beyond her usual limit of freedom. Since weaning the child she had felt an extreme and persistent lassitude which would not even allow her to perform her household duties, and she grew worse in spite of a continuous administration of tonics; when seen in September 1874, she had kept her bed more than a week. She had suffered from a slight diarrhœa, now better, and worse, for ten months, and vomiting after food had been frequent since the preceding April. Auscultation at first revealed nothing, but towards the end there was some prolongation of the expiration, with crepitation at the apices of both lungs, and a superficial rub in the right subaxillary region. She was troubled with rather severe fleeting pains between the shoulders and in the lumbar region, thence radiating over the abdomen. Epigastric pain, increased by pressure, was almost constant.

The face, neck, and dorsal surface of the hands, were of an uniform greyish-brown colour; in the face the colour extending as far as the scalp, without showing any line of demarcation towards the hair, so characteristic of the chloasma of sun-burn or of pregnant women. The neck and intervertebral grooves were also deeply coloured, the tint gradually losing itself in the healthy parts. The mammary areolæ were very large and brownish-black, and the surface of the abdomen contrasted with the comparatively white colour of the chest. The gingival mucous membrane of the superior maxilla presented three irregular blotches of pigment, but the lips, tongue, and palate were healthy. The coloration of the skin had been in existence more than three months, and commenced in the face. In two months the patient had been obliged to cut her hair, which had become woolly and felted, so that she could no longer comb it.

The asthenia now increased rapidly; the diarrhœa became colliquative; the cough more frequent; the expectoration more abundant; attacks of syncope supervened, and she died in October after ten months' illness. No *post mortem* was made. The possibility of the case being one of melanoderma dependant upon the menses or tuberculosis, is discussed and negatived, and a distinction is drawn between Addison's disease and other forms of pigmentation, to which some might perhaps take exception; "pigmentation of the mucous surfaces has never, to my knowledge, been observed in the melanoderma which draws its origin from a cachectic state such as tuberculosis, cancer, or ague".

II. A married woman, 33 years old, living in the suburbs of Commentry. At the age of 19 she had an

attack of quotidian ague which lasted three months, but has not since returned. She had for long been subject to leucorrhœa. The menses had been regular since the age of 22. She had had two children, and, suffering from uterine inaction at her first confinement, delivery was completed by the aid of the forceps. Since that time she had frequently been subject to pain in the loins. She was of moderate stature, without any diathetic peculiarities, well-nourished and occupied only in domestic affairs. In June 1876 her mother asked my advice, saying that her daughter was very weak and had lost all her blood. I found her lying on a couch, and was immediately struck by the coloration of her face, so different to what I had known of her in former times. Her friends had not noticed this, but when their attention was called to it they quickly recognised that the patient's skin had bronzed considerably, and when I remarked upon the difference in colour between the palms and backs of her hands, she confessed that she had several times during the last fortnight tried to remove the almost black colour by means of soap. The colour was much more pronounced over the articulations of the phalanges, where it presented a slaty-black colour which recalled to mind the colour of the hands of walnut-shellers. The rest of the dorsal surface of the hands was olive-coloured, and upon the face and trunk the skin was well bronzed. The melanoderma was almost universal. The tint was uniform without spots, but deeper in certain parts; the arms, the face, neck, abdomen, back, and anterior extent of the thighs. Upon the sides of the belly the colour gradually became lighter towards the flanks, where it was almost normal. The conjunctiva and buccal mucous surfaces were unaffected. The patient described her state thus: "In the last month I have been unable to keep upright; I have no strength, have lost appetite, have pain all over me, and I have not long to live." The catamenia in this case, always abundant, had been menorrhagic for the last month, and habitual constipation had become more obstinate. She had eructations after food, but neither vomiting nor nausea; and she had rather severe pain on pressure over various parts of the abdomen and back. All the viscera appeared normal. Treatment was directed towards arresting the uterine hæmorrhage, and relieving constipation, and she rapidly improved. Quinine, iron, and gentian were resorted to and she soon considered herself well. As regards the colour of her skin, there is a subsequent note that the splenic region is almost black in the region of a former blister. There are also blueish patches upon the labial mucous membrane which did not formerly exist. The last note respecting her (October 1878), two years and a quarter after she was first seen, states that she still remained well and the colour of the skin had become much paler, more especially upon the hands.

Dr. Fabre had no hesitation in making a diagnosis of Addison's disease in this case, and although the patient had considerable pain at one time in the splenic region, and had many years previously suffered from ague, he does not think it likely that she was suffering from any paludal melanoderma. He remarks upon the presence of metrorrhagia unaccompanied by anæmia, the presence of lumbar pain, the absence of vomiting, etc. He considers that the amelioration is only one of the temporary arrests of the course of the disease which are well known to occur. The author then gives a very fair summary of our present knowledge of the symptoms of Addison's disease, insisting, as all other observers have

done, that the asthenia, digestive troubles, lumbosacral pains, etc., are the most constant symptoms, and that the "bronzing" comes behind these in rank of its importance. But there is nothing new in these remarks for English readers so we need not follow them.

JAMES F. GOODHART, M.D.

HUNTER ON NEW INSTRUMENTS FOR TREATING URETHRAL STRICTURE.

DR. A. HUNTER, of New York, has described in the *New York Med. Record*, a description of a series of instruments for the above purpose, manufactured by Messrs. G. Tiemann and Co., 67 Chatham Street, New York. The first of the series is called by the author "filamentous wedge"; it is made of whalebone, highly polished, and in sizes from 5 to 10 of the French scale. It has proved very useful in contracted strictures, especially if the walls be indurated and complicated with false passages.

"No. 5" consists of a point four inches long, a tapering circular wedge two inches long, a continuation of the filamentous point, and a staff eight inches long, equal to the continuation of the case of the wedge. The length of the wedge increases, in the larger sizes, at the expense of the length of the filamentous point, in order to preserve the same gradual taper of the wedge. The filamentous points are also coarser in the larger sizes, and it is to be specially noted that in all the sizes, except at their

very point, they are of uniform calibre throughout. As at first made, the points of all sizes were but about two inches in length. The long point of this instrument traverses the urethra beyond the stricture before the wedge encounters the contraction, and therefore the operator can exert urgent and efficient pressure, with the consciousness that the wedge has not departed, and cannot depart, from the urethral canal into a false passage. So strong a claim can hardly be urged for the tunnelled sound, with its blunt point, together with its liability, under certain circumstances, to produce a short bend in its slender guide.

This circular wedge will be found very useful in preparing the patient for further operations by removing or relieving the urethritis and the irritability. As, however, it can never fully dilate strictures in the deeper portions of the urethra without destroying the normal conditions of the canal, and another instrument had to be devised, which is the dilator, divulsor, and urethrotome, shown half-size in Fig. 1. It has proved very useful, and had effected dilatation, divulsion, and incision as perfectly as though devised for either purpose alone.

The curved bars are so made that they dilate but $3\frac{1}{4}$ inches at a time of the urethra, and therefore the operator can address his efforts to the deeper portions of the canal, and enlarge it to the required extent without enlarging the meatus. This is accomplished by means of a joint in the concave bar at *a*. This same joint also allows the bars to dilate to their

Fig 1.

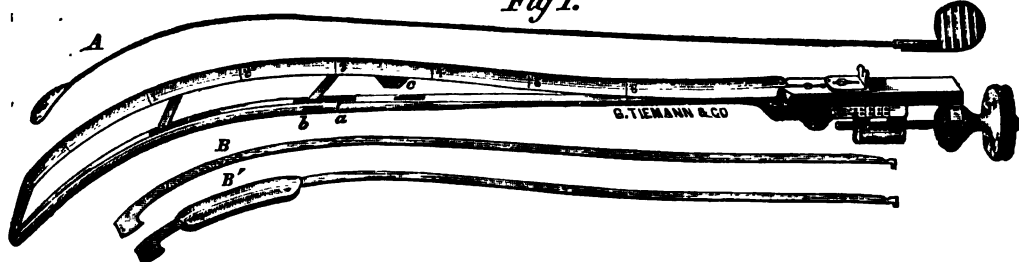


Fig 2.

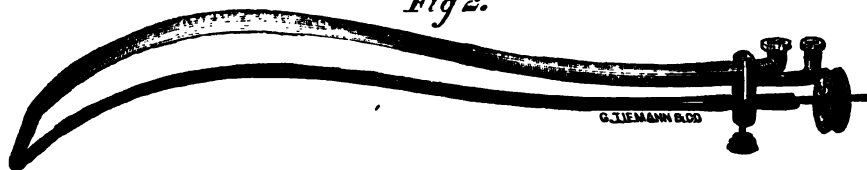


Fig. 3.



fullest extent without increasing resistance. The operator is therefore at all stages of progress confronted by the stricture only, and can appreciate exactly the amount of force that is being exerted to effect its removal.

The amount of curve in this instrument is not less than the curve of Thompson, though distributed through longer space. This distribution of curve enables the operator to make tense, longitudinally, any portion of the canal he may desire to incise. Again, the curve allows dilatation or incision to be

made in the curved portion of the urethra, without materially disturbing the normal relations of the parts; an advantage not offered by the straight dilating urethrotomes, which in this region make incisions of varying depth.

The blade *A* of this instrument traverses the convexity of the curve from behind forward. It is sharpened on either end, but blunt on its most projecting edge; and therefore, while it will readily cut the resisting bands, it will crowd away without incising the looser tissues.

By this means the operator is not only enabled to limit the amount of hæmorrhage, but also the amount of subsequent urinary infiltration.

A scale of inches, commencing at a point where the knife rises out of the fenestrum which conceals it, extends to the handle, and enables the operator to locate the blade just behind the stricture.

A similar scale to locate the divulsor is on the other side, and commences at the end of the convex bar.

The amount of dilatation is accurately indicated by sliding scales on the handle; one side representing the French, the other the American.

It is equipped for the dilatation or divulsion of strictures in all locations, from No. 20 French up to the normal size of the urethra in its spongy portion, by simply placing the steel bar B in the groove prepared for the knife, which it accurately fills, and into which it is securely retained by a hook on one end, and a hook and sliding catch on the other.

The groove is sufficiently wide to admit of its being rapidly cleaned with the edge of a piece of blotting-paper, after which the instrument may be dipped in alcohol and set on fire, or be passed through the flame of a spirit lamp, to prevent the possibility of contagion.

Having carried the dilatation up to the normal size of the spongy portion, the steel bar B, on which there is riveted a German silver glove $1\frac{1}{4}$ inches long, may be substituted for the steel bar B.

By this means the dilatation can not only be confined to shorter limits, but the stricture can be over-distended without interfering with the normal calibre of the canal elsewhere. Other gloves—thicker, longer, or shorter—can be added to the dilator at trifling cost. A very short one is also provided, though not illustrated, which serves to locate and define, in a very satisfactory manner, strictures of medium and large calibre.

A glove three inches long, to fit over the concave bar, is also provided, to still further distribute pressure in the divulsion of strictures of large calibre.

The dilatation of strictures with a dilator, provided its bars have sufficient surface to reasonably distribute its pressure, is less painful, and is much more promptly accomplished than by the use of the circular wedge.

This method has proved very efficient, easy, and safe, when internal urethrotomy had to be performed in the penitulous portion of the urethra, but it is not so safe in the bulbo-membranous portion, the chief dangers being here hæmorrhage, urinary infiltration, and urethral fever. With a view to lessen or remove these, the instrument depicted half size in Fig. 2 has been devised. It has been called the urethral tourniquet, and is also made by Tiemann and Co. It consists of two curved bars, each $9\frac{1}{4}$ inches long, which are connected on their distal end by a third bar half an inch in length. This third bar serves to separate the distal ends of the long bars when moved by a screw at their proximal end. Their proximal ends are separated by a screw on their side, as seen in the figure. When closed the instrument measures twenty of the French scale.

It is easily inserted, and can therefore be made to exert pressure in any portion of the urethra. Moreover, the pressure can be limited to the exact extent of the incision by reducing with the fingers the curve in the concave bar. The concave bar is broad and slightly rounded on its projecting surface, that it may distribute its pressure, and thereby contribute to the comfort of the patient. It has a transverse con-

cavity on its inner surface, to allow it to lie in close contact with its fellow when closed. The other, or convex bar, is larger than its fellow and nearly round, with the exception of $3\frac{1}{4}$ inches of its distal end, on the convex surface of which there is a rounded, bevelled, blunt edge. This rounded, bevelled surface, when buried in the incision with even slight tension, prevents not only the loss of blood, but also hæmorrhagic infiltration about the edges of the wound, a condition that may prevail when, to restrain active hæmorrhage, the operator relies upon the introduction of a sound plugging the urethra before and behind, without making direct pressure in the cut.

A fenestrum is provided in the short bar, through which the patient may void his urine while the instrument is *in situ*, though it is generally better to relieve him by the introduction of a large soft catheter.

The larger or convex bar is made of German silver, and is hollow throughout. A septum divides its bore into two compartments throughout its whole length. Through one of these compartments ice-water from a fountain syringe can be made to flow through the whole length of the instrument, while the other compartment will return the fluid; and, by attaching a rubber tube, it may be conducted into a receptacle—or by opening a fenestrum in the distal end, and corking the return cannula, the fluid will flow out through the urethra, between the dilating bar and the cannulae, and thus make the same instrument available, when the incision has been made in the upper portion of the canal, or, if desired, another can be obtained with the position of the bars reversed.

This instrument has been used both in the membranous and pendulous portion, and in each instance the hæmorrhage was arrested at once by moderate pressure alone. If the latter should occur, it will be revealed at the outlet of the penis.

By reducing the curve in the concave bar, the pressure can be made to conform exactly to the length and depth of the incision.

If, now, the instrument be left with the patient, with instructions how far to insert it, and how often, he will be able himself to not only thoroughly keep apart the edges of the wound while healing, but will also himself be able to arrest a possible secondary hæmorrhage.

CLEMENT ON THE COLD WATER TREATMENT OF ENTERIC FEVER.

IN a recent number of the *Lyon Médical*, Dr. Clement advocates a new method of applying cold water in fever cases. The description of the apparatus is as follows. It consists of a double-walled jacket of vulcanised caoutchouc, which is sufficiently long to cover the trunk, and sufficiently broad to allow of its enveloping the thorax and abdomen. It is provided with straps to retain it in position. To prevent the weight of the body pressing the two walls together, indiarubber balls were fixed on the interior. Water was supplied to the jacket from a tub at the bed-head by two pipes, and was drawn off by a single pipe into a tube placed at the bedside. The pipes were furnished with stop-cocks to regulate the rapidity of water. The temperature of the water was 18° or 20° Cent. The interval between the times of turning on the water was three hours, and it was kept running

for 1½ to 2 hours at such a rate, say to change the water in the jacket once in twenty minutes, as brought about a reduction of 1.5 to 2 Cent. Its application was not free from risk of chest complication, even though the patient was not directly wetted.

The value of a given plan of treatment is generally estimated by the result produced from the employment of that treatment. Dr. Clement says that his patients were admitted on the fourth or sixth day of illness, but we think he might alter four and six into eight and twelve. Our experience of cold water, quinine, etc., leads us to believe that if the so-called "antipyretics" are tried in the first fortnight of illness, the fever is probably beyond control, i.e., the result obtained is not worth the trouble to the medical attendant or the suffering inflicted on the patient. In a disorder like enteric, in which the onset is generally uncertain, it is impossible to say, within a week, what is the date of the "disease", and in this way errors creep into statements made as to a particular plan of treatment. If Dr. Clement's patients were admitted on the fourth or sixth day, as he says, we should consider the epidemic severe, and the results good, even though three of the seven patients on whom this plan was tried, did die. The moment the temperature shows signs of "marked remission or intermission" one can use with advantage almost any "antipyretic". Most systems for reduction of temperature are troublesome from the amount of care called for in application, and can only be employed when assistants (e.g., nurses) are perfectly trustworthy.

That even the water-bed in use in the country is able to bring about reduction in temperature, we have little doubt, from the complaints made by patients for whom we, for reasons quite other than temperature reduction, order this expensive luxury. Inasmuch as a water-bed costs from £8 to £10 to us, and would cost more to anyone buying a single article, and as they are not readily kept in order, they are expensive items. The cost of the beds recommended by Dr. Clement is not stated, but is probably not less than the price we give. Life is to be preserved at any cost, but when cost is great, when the result for the expenditure cannot be guaranteed, and when we find that the mortality in Dr. Clement's cases was about 40 per cent., admitting that they were exceptionally severe, be this severity due to the disease or estimated by the result of the case—one cannot recommend that the plan be followed without further information. Dr. Clement says that the plan might be of service in cases of fever with symptoms of perforation. That patients with symptoms of perforation may recover is quite true, and the plan of treatment recommended by Dr. Clement may be as useful or useless as any other in these circumstances; but we have not seen recoveries from perforation under any plan of treatment.

F. TWINING.

VON TRÖLTSCHE ON THE IMPORTANCE OF INCLUDING AURAL SURGERY IN PASS EXAMINATIONS.

IN a paper on this subject presented to the German Imperial Chancellor's Office, and published in the *Archiv für Ohrenheilkunde*, xiv, 2, December 1878, Professor von Tröltsch enters at considerable length into the grounds which render it "not only very desirable, but necessary in the interest of the

State, that every qualified medical man (*praktischer Arzt*) should, up to a certain point, be competent to diagnose and treat ear-diseases, and that, therefore, evidence of knowledge of this department should be required at the final examination". It appears that in the German Empire examination in ophthalmic surgery has recently been made compulsory, and for the following practical reasons: 1, the great frequency of eye-diseases; 2, that by these diseases and their consequences, the population, and indirectly the State, may be very materially injured; and, 3, that this injury can be diminished in direct proportion to the number of medical men who are able to diagnose correctly and treat these forms of disease.

The author then considers otology under these three heads. 1. He concludes that ear-diseases are much commoner than usually supposed, for the following reasons. They are usually not conspicuous externally, as eye-diseases frequently are; further, the hearing power must be reduced to a pretty considerable extent before it is noticed in the ordinary relations of life; and, lastly, deaf persons have a great tendency to hide their infirmity. Having pointed out the frequent connection of ear-diseases with influenza and diphtheria, with whooping cough and scarlatina, with measles and small-pox, with typhus and pulmonary tuberculosis, and, also, that the health of the ear frequently suffers from heart-diseases, morbus Brightii, emphysema, ascites, goitre, pregnancy, scrofula, syphilis, etc., the author proceeds to state with all certainty that pain, noise, and suppuration in the ear, and more especially deafness, belong to the commoner complaints of humanity in these regions; that they occur at least as frequently as eye-diseases; and, lastly, that diseases of the ear are without doubt to be classed amongst the most frequent diseases of childhood.

Having then drawn attention to the fact that deafness renders a person incapable for many employments, the author alludes to the more serious results not uncommonly attendant on suppuration in the ear, such as cerebral abscess, suppurative meningitis, phlebitis, pyæmia, acute tuberculosis, etc. The number of persons dying from these diseases is, he says, certainly not small, and it may be asserted without doubt, that almost all of them might have been rescued from a premature death by suitable treatment applied at the proper time. Comparing these results with those following eye-diseases, the doubtful pre-eminence of much greater injuriousness must, he says, unfortunately be given to diseases of the ear.

The author considers that he is considerably under the mark when he calculates that, of the 38,489 deaf mutes supposed to exist in the German empire, 15,000 suffer from deafness acquired after birth, and that one-fifth of these (i.e., 3,000) might, by early and energetic treatment of their ear-affection, have been rendered instead of deaf mutes, at least hard of hearing in different degrees, so as to retain their speech and to be able to profit by ordinary instruction. The author then alludes to the great necessity of giving attention to the ear in the acute exanthemata.

With regard to the third point mentioned above, the author is of opinion that the more surgeons there exist who are acquainted with aural surgery, the earlier patients will as a rule allow themselves to be treated, and the smaller will become the number of cases that are incurable.

The author therefore proposes to the German authorities, that in the new regulations for the pass-examination which are being drawn up, aural surgery should be included amongst the subjects of exami-

nation. In a practical point of view he suggests that at the pass-examination there should be a *visu voce* question in aural surgery, and that the candidate should give proof of being able to examine the membrana tympani on the living subject, describing the appearance it presents, or pass the Eustachian catheter (on the dead or living subject), or perform some equally difficult operation on the ear.

The question of requiring some knowledge of ophthalmic and aural surgery at the pass-examinations is deserving of the attention of our examining bodies, but more especially should it be taken into consideration if the conjoint scheme come into operation.

E. CRESSWELL BABER, M.B.

HUSEMANN ON PHYSIOLOGICAL ANTAGONISM.

TH. HUSEMANN contributes a fresh instalment of his studies on this subject to the *Archiv f. Exper. Path. und Pharmacologie* (x, 1 and 2). Having shown, on a previous occasion, that the fatal effects of a dose of strychnia from five to six times as large as the lethal minimum may be averted in the rabbit, by the subsequent administration of a proportionate quantity of chloral hydrate, he proceeds to discuss the relation between the two agents when the dose of strychnia only exceeds the lethal minimum by a very little, and when it is more than six times as great. In the former case, the occurrence of tetanic spasms may be altogether prevented by chloral hydrate; in the latter, the necessary dose of the antidote is too large to be tolerated with impunity, death being caused by chloral-poisoning. The limits of antagonism being thus relatively narrow, further researches were undertaken with a view to finding some more perfect antidote to the alkaloid. The rival claims of bromide of potassium in combination with chloral hydrate, of alcohol, and physostigmin, were tested and compared with one another, and with those of chloral hydrate alone. The following is a summary of the results:

1. *Bromide of Potassium in Combination with Chloral Hydrate.*—This has been recommended as an antidote to strychnia by Dr. Bivine, of the United States, on the ground of clinical experience. Husemann satisfied himself that the combination was actually inferior to chloral hydrate alone. Not only did the addition of the bromide fail to intensify the operation of the chloral hydrate, but "late" convulsions were observed more frequently when the two drugs were given together, than when the latter was given by itself. This is attributed by the author to some interference on the part of the bromide with the normal elimination of the strychnia through the kidneys.

2. *Alcohol.*—That brandy is of use when a moderate over-dose of strychnia has been accidentally swallowed, was shown by Bardsley in 1829. But when the quantity of strychnia taken is more than one and a half times the lethal minimum, alcohol fails to neutralise its effects. Moreover, the action of a given dose of absolute alcohol can never be predicted with certainty in any given case. It is influenced by idiosyncrasy far more than that of chloral hydrate.

3. *Physostigmin.*—When the dose of strychnia only just exceeds the lethal minimum, its effect may be neutralised by pure physostigmin (free from calabar). When it is twice or three times as great, physostigmin is useless.

The practical outcome of these experiments is the recognition of chloral hydrate as being, for all practical purposes, the best and safest antidote in poisoning by strychnia. During the chloral sleep, the patient should be watched, and any cessation of the respiratory movements (which is very prone to occur) combated by methodical compression of the thorax.

The above results are substantially identical with those arrived at by the Edinburgh Committee of the British Medical Association some years ago.

E. BUCHANAN BAXTER.

VALLEN ON HYPODERMIC INJECTIONS OF COFFEE FOR MORPHIA VOMITINGS AND OPIUM POISONING.

DR. VALLEN, in the *New York Med. Record*, for December 1871, makes the following statement.

CASE I.—Mrs. B., aged 34, has been under treatment for three months for chronic pelvic cellulitis. The entire left half of the periuterine spaces, as well as the Douglas *cul-de-sac*, are matted together, rendering the uterus, left broad ligament, and rectum, fixed and immovable. Her menstrual molimen has been ushered in for some eight months with excruciating pains, lasting from three to four days, subsiding into a dull hypogastric and pelvic ache during the menstrual flow. Nothing has relieved these pains save the complete influence of morphia; but as soon as the drug begins to subdue the pain, vomitings ensue, persisting as long as any morphia remains in the system. So painful and so prostrating are these attacks, that the patient has lately made strenuous efforts to do away with the medicine, and consents to its use only when her agonies are unbearable. On the 16th of November last, I insisted upon giving a hypodermic injection of one-quarter grain of morphia sulphate combined with one-fiftieth grain of morphia sulphate, hoping the latter drug might, in a measure, mitigate (as I have frequently found it so to do) the nausea and vomiting. It was of no avail, as in less than twenty minutes the usual miserable and distressing attacks came on. The continuous and faradic currents were alternately tried for more than an hour. It was folly to attempt stimulation, as the smallest pieces of ice were instantaneously rejected from the stomach. The patient was seriously prostrated, and I felt somewhat anxious about the result as she was extremely weak and debilitated. After a period of four hours I bethought me of a preparation of the fluid extract of Java coffee, which had been sent me by John Wyeth and Brothers, of Philadelphia. Of this coffee extract I gave a warm hypodermic injection of twenty minims in the epigastrium, and in about fifteen minutes the patient expressed herself as feeling decidedly better, having vomited but once during that time. I then gave an additional hypodermic injection of fifteen minims (warm) in the abdominal parietes. She was free from the nausea in less than an hour, and never vomited after the second injection of coffee.

CASE II.—I. I., a confirmed secret morphine eater, was found in his bed on the morning of December 1st profoundly affected. His pupils were very much contracted, conjunctivæ injected, pulse 42 per minute, respirations feeble, 8 to the minute, and was aroused with great difficulty, after being well slapped on the cheeks and drenched with cold water. An empty drachm bottle, marked "morphine sulph." was found on the floor. I injected thirty minims of coffee into the epigastrium at once, and ordered him to be

walked about by two stout hotel porters. In fifteen minutes I administered thirty minims more in the right arm, over the deltoid. I watched him for about half an hour more, when I observed the pupils to be dilated, and the pulse had gone up to 64, and the respirations were about 14 per minute. In two hours more he showed no farther symptoms of morphia whatever.

In the first case there were no ill effects from the hypodermic injections; but in the second one, a very considerable abscess ensued in the shoulder, and some inflammatory indurations in the epigastrium. A very pertinent question arises, if the hypodermic injection of cold coffee extract were prejudicial to the sub-integumentary connective tissues, or did the quantity (thirty minims) produce abscess? When the fluid was used warm, about the temperature of the body, no trouble manifested itself. For many years I have been in the habit of warming all hypodermic injections, and I have never seen abscess follow. Whereas (from hurry or impossibility to warm the fluid), I have not infrequently seen cold hypodermic injections produce irritation, inflammation, or abscess.

Another very interesting question arises as to the antidotal influence of coffee. I ordered the fluid extract of coffee from Wyeth and Brothers, to use as an eliminator of the urates in gout. It certainly possesses valuable properties in the treatment of chronic gout, as a renal depurant. Can it act thus to remove the poison of opium and the tissue detritus caused therefrom? I leave the solution of this question to our physiological chemists.

SURGERY.

RECENT PAPERS.

- BOECKEL.—Healing of Cold Abscesses. (*Gaz. Méd. de Strasbourg*, January 1879.)
- BARTHELEMY.—On Bladder Complication arising from Fractures of the Pelvis. (*France Méd.*, January 1879.)
- BECK.—Penetrating Wound of the Lung, with Prolapsus Pulmonum. (*Memorabilien*, No. 11, 1878.)
- BROCKMANN.—Internal Obstruction of the Large Intestine. (*Ind. Med. Gaz.*, Dec. 1878.)
- BROCA.—Fracture of the Skull: Case of Traumatic Tetanus. (*Journal de Méd.*, Jan. Number, Vol. 1.)
- BILLROTH.—Enteroraphy. (*Wien. Med. Woch.*, Jan. 1879.)
- CALLENDER.—Avoidance of Pain in the Dressing of Surgical Cases. (*Med. Rec.*, Vol. xv, 1879, Jan.)
- DESPRÉS.—Case of Vesical Calculus formed around a Fragment of a Probe. (*Gaz. des Hôp.*, Jan. 1879.)
- DELENS.—Vesico-Vaginal Operation. (*Bullet. and Mem. de la Soc. de Chir.*, Vol. iv, No. 10, Dec.)
- DESPRÉS.—Congenital Stricture of the Rectum. (*Ibid.*)
- DUPLAY.—Case of Strangulated Umbilical Hernia. (*Arch. Gén. de Méd.*, Jan. 1879.)
- FREYER.—Enchondroma of the Submaxillary and Parotid Glands. (*Ind. Med. Gaz.*, No. 39, Jan.)
- FLEURY.—Gunshot into the Left Temporal Region. (*Bullet. and Mém. de la Soc. de Chir.*, Vol. iv, No. 10.)
- GAUJOT.—Case of Tumour on the Upper Part of the Left Thigh. (*Ibid.*)
- GAUCHER.—Two Cases of Suppurative Parenchymatous Orchitis. (*France Méd.*, Jan. 1879.)
- ST. GERMAIN.—Treatment of Fractures in Infants. (*France Méd.*, Jan. 1879.)
- GEISSEL.—Case of Incarcerated Umbilical Enterocoele. (*Deuts. Med. Woch.*, Jan. 1879.)
- GUSSENBAUER.—Surgical Treatment of Carcinoma. (*Prag. Med. Woch.*, Jan. 1879.)
- GOSSELIN.—Osteomyelitis and Septicæmia. (*Bulletin de l'Acad.*, Jan. 1879.)
- GUÉRIN.—Treatment of Wounds. (*Revue de Thérapie, Méd. Chir.*, Jan. 1879.)
- GRITTL.—Progress of Surgery in treating Fractures of the Limbs by Extension. (*Medicina Contemporanea*, Dicembre 1879.)
- GALLOZZI.—Case of Resection of the Tibia. (*Ibid.*)
- HOULLON.—Case of Injury to the Left Frontal Region: Trephining. (*Gaz. Méd. de Strasbourg*, Jan. 1879.)
- IPAVITZ.—Case of Amputation of the Thigh cured in five Days. (*Med. Chir. Centrbl.*, Jan. 1879.)
- HUTCHISON.—Lectures on Clubfoot. (*N. Y. Med. Rec.*, Jan. 1879.)
- KACZOROWSKI.—On Cold as an Antipyretic and Antiseptic. (*Deutsche Med. Woch.*, Jan. 1879.)
- KOSTJURIN.—On the Effects produced by Ice when introduced into the Rectum in Anæsthesia. (*St. Pet. Med. Woch.*, Dec. 30, 1879.)
- LANKFORD.—Operative Treatment of Internal Hemorrhoids. (*St. Louis Med. and Surg. Journal*, No. 6, Dec. 1878, Vol. xxxv.)
- LIZÉ.—Treatment of Luxations of the Foot. (*Bull. and Mém. de la Soc. de Chir.*, No. 10, Vol. iv.)
- LUZZATTO.—Fibroma of the Retro-peritoneal Glands. (*Com. Clin. di Pisa*, Dicembre 1878.)
- MEILLY.—Two Cases of Complicated Fracture of the Skull. (*Centralblatt*, Jan. 11th, 1879.)
- MILLIGAN.—Urinary Fistula, and Spont. Exit of a Stone from it. (*Med. and Surg. Rep.*, Jan. 1879.)
- NOTTA.—Foreign Bodies in the Bladder and Urethra: Urethrotomy. (*Année Méd. de Caen*, Dec. 1878.)
- NUSSBAUM.—Operation for Intercostal Neuralgia. (*Aerztl. Intelligenzblatt*, Dec. 1878.)
- PILATE.—Multilocular Cyst of the Axilla. (*Bullet. and Mém. de la Soc. de Chir.*, No. 10, Vol. iv.)
- POLAILLON.—Case of Intraparietal Strangulated Hernia. (*Un. Méd.*, Jan. 1879.)
- PIŤKIEWICZ.—Dental Grafting. (*Gaz. des Hôp.*, 1879.)
- PRAN.—Foreign Body in the Mastoid Process (*Revue Méd.*, Jan. 18th, 1879.)
- PONCET.—Gunshot into the Xyphoid Process, with Perforation of the Stomach and Pericardium. (*Bull. de la Soc. de Chir.*, No. 10, 1878.)
- PONCET.—On Gunshot Wounds and their relations to the Gut. (*Progr. Méd.*, Jan. 4 and 11, 1879.)
- PILCHER.—Force pressure. (*Proc. of the Med. Soc. of the County of Kings*, No. 11, 1879.)
- PRÉVOST.—Tumour of the Fossa Iliaca. (*France Méd.*, January 1879.)
- RICHET.—Spontaneous Fracture of the Humerus in a Case of Cancer. (*Rev. Méd.*, Jan. 4th, 1879.)
- RIBEMONT.—Wadding Treatment of Surgical Cases. (*Progr. Méd.*, Jan. 18th, 1879.)
- RICHELOT.—Two Cases of Mammary Tumours. (*Un. Méd.*, Jan. 1879.)
- ROELEN.—Case of Transverse Rupture of the Patella. (*Allg. Med. Cent. Zeit.*, Jan. 1879.)
- SIREDEY.—Suppuration of the Pelvis after Parturition and Phlebitis: Suppuration following Abortion. (*Fourn. de Méd.*, January 1879, Vol. 1.)
- SARAZIN.—Vesical Calculus. (*Bull. de la Soc. de Chir.*, No. 10.)
- WINIWARTER.—Chylangioma Cavernosum in Abdomen. (*Med. Chir. Centrbl.*, Jan. 1879, Nos. 1 and 2.)
- WYETH.—Medico-Lateral Lithotomy. (*N. Y. Med. Rec.*, January, Vol. xv, No. 1.)
- WEICHSELBAUM.—Fractures of the Long Bones. (*Fed. d'art.*, Jan. 1879.)
- WARREN.—Twelve Cases of Disease of the Breast. (*Boston Med. and Surg. Journal*, December 1879, Vol. xcix, No. 24.)
- WAHL.—Remarks on Traumatic Fever. (*St. Petersburg. Med. Woch.*, Dec. 1879, No. 51.)

STEELE ON A CASE OF SUCCESSIVE ANEURISMS.

—In the *Edinburgh Journal* for January 1879, a somewhat interesting case of aneurism is related by Dr. H. Steele. Ten years ago, a man then aged 53, had the left femoral successfully tied in the usual place for an aneurism in Hunter's canal. Fifteen months ago, aneurism showed itself in the corresponding situation on the other side, and the femoral was again successfully tied. These operations were, if we understand aright, done with the silk ligature and without antiseptics. In both cases convalescence was protracted, and in one the ligature remained firm for six weeks. Last August, an aneurism formed in the left groin, and the external iliac was tied with catgut, and all antiseptic precautions used. The wound, however, became the seat of very foul suppuration, and never healed. Fifty days after the operation, hæmorrhage commenced, and continued up to the time of his death, five days afterwards. An attempt was made just before his death to secure the common iliac; but his condition prevented the completion of the operation. On *post mortem* examination, the bleeding was found to have proceeded, not from the tied part of the external iliac, but from a small aneurism involving a bifurcation of the common trunk, which had been in the way. The aneurism in the groin had been cured, and the external iliac, which had been tied with catgut, was perfectly obliterated, and converted into a fibrous cord, about an inch long. We regret the termination of the paper containing Mr. Steele's observations on the case, which are eminently worthy of the reader's attention.

Professor Spence, to whom I submitted the preparation, has done me the great favour of examining His account of the femoral and left external iliac ties is very similar to my own. 'The inguinal aneurism,' he says, 'is cured, and at the point of division of the external iliac all the essential hæmorrhagic changes have been perfectly completed. The unhealthy state of the vessel begins with a small aneurismal dilatation just about the bifurcation of the common iliac. On the posterior wall of the common sac there is an irregular rounded aperture, chiefly caused by ulceration round some atheromatous patch. This aperture is evidently the seat of the bleeding.'

I should think it very likely that after the ligature of the external iliac the obstruction caused to the current had induced distension of the diseased vessel higher up, and that the point already weakened by atheroma had yielded, and thus led to the

view he is correct, the case has important interest on Brasdor's method of operation. In most cases of distal ligature it is generally, that the impulse in the sac has been diminished instead of being increased; but if any specially weak point in the sac, or, as in this case, special difficulties in the collateral circulation, the impulse may be sufficiently strong to rupture. Your case, therefore, presents considerable practical interest."

Another point to which the present reporter has attracted attention is the source of the second hæmorrhage. Had no *post mortem* examination been made in this case, it would very naturally have been quoted as one of death from secondary hæmorrhage after ligature with carbolised catgut. It is probable that the ligature had caused ulceration of the vessel, as the silk ligature would have done. This is only another of the

numberless instances of the dangers of drawing any inferences from incomplete cases. T. HOLMES.

TRÉLAT ON CYSTS OF THE SPERMATIC CORD.

—In a clinical lecture reported in *Le Progrès Médical*, November 23, 1878, M. Trélat illustrated his remarks on the above subject by the case of a boy, aged 14, at that time under his care.

On examination, the patient was found to have a small swelling at the lower part of the scrotum partially obscuring the testicle. This was diagnosed as an ordinary hydrocele of the tunica vaginalis, and on being tapped the ordinary fluid escaped. Above the testis, and distinct from it, was a second swelling, multilobular, hard, and non-fluctuating, but quite transparent. A colourless fluid, without spermatozoa, was removed by tapping. In the groin was a third swelling, which disappeared on the patient lying down, and which was at first thought to be a hernia. However, by pulling on the multilobular cyst, M. Trélat found he could also pull down the supposed hernia, while traction on the testicle itself did not affect it in any way. This struck him as being unlike hernia, so he placed the boy on his side, and in this position, by forcible depression of the abdomen, and traction on the cyst, he was enabled to get a light behind the inguinal tumour, which was then found to be completely translucent. On puncture, the same kind of colourless fluid as from the swelling below flowed out. The cysts refilled after a short time, and after the lecture M. Trélat intended to inject them with tincture of iodine.

M. Trélat remarks that cysts of the spermatic cord may be divided, from a pathogenic point of view, into two chief varieties, viz.:

1. Those developed in the remains of the Wolffian body. These are always adherent to the testis or epididymis—Wolffian cysts.

2. Those originating in the persistence, more or less irregular, of the vagino-peritoneal canal—the true encysted hydrocele of the cord.

The cysts in the above case were, of course, of this latter variety, for, besides the absence of spermatozoa from the fluid evacuated, the scrotal swelling was quite independent of the testis or the epididymis, and the inguinal swelling was situated at a point too high for it to be connected with the debris of the Wolffian body.

ARTHUR COOPER.

BAKOWIECKI ON THE SUTURE OF NERVES.—

Dr. Bakowiecki, working in the histological laboratory at Kiew (*Gaz. Médic. de Paris*, October 26, 1878) on the condition of nerves after suture, finds that the suture of nerves considerably hastens their cicatrisation, and the re-establishment of their functions; that it is necessary to unite the cut nerves within twenty-four hours of their section, and to perform the operation in such a way as to prevent the ligature from passing through any structure except the neurilemma; and that sutures of catgut must be alone employed, as they do not cause suppuration, whilst they are wholly absorbed in the wound. Suture prevents the appearance of tetanus. Eulenberg and Landois obtained negative results because they passed the ligature through the whole thickness of the nerve. The experiments of Dr. Bakowiecki were made upon various animals; they were one hundred in number; the nerves sewn were the sciatic, vagus, and hypoglossal. The sutures employed were of silk, silver, and catgut prepared by Lister's method. The microscopical appearances seen were in the negative cases, in which

no regeneration of the nerves took place, destruction of the axis cylinders. In the positive cases, in which there was regeneration of the nerve-fibres, a bud made its appearance at the end of the axis cylinder of the nerve. After a lapse of thirty days, filaments (axis cylinders) were seen, which appeared to consist of fusiform cells communicating with each other by their prolongations. Around the filaments a pale contour line could be distinguished; this line the author believes to be the medullary sheath. The filaments themselves join directly the original nerve-fibres of the central end of the cut nerve. The author supposes that new nerves are thus formed, and he bases his supposition upon three facts. In the first place, the filaments just described pass directly into the nervous fibres. Secondly, the portion of regenerated nerve is composed of these fibres. The nerve, when so formed, is found to have recovered its functional properties. Lastly, the filaments are strongly stained by carmine, and they act in the presence of certain chemical reagents in exactly the same way as do the true axis cylinders. The pale contour-line is supposed to be the medullary substance of the nerve, and not the neurilemma or sheath of Schwann, because no nuclei have been found in it.

D'ARCY POWER.

BILLROTH ON EXCISION OF THYROID GLAND.—At a meeting of the Imperial Medical Society in Vienna, January 30, Dr. Wölfler showed a woman, aged 35, whose entire thyroid body had been removed by Professor Billroth for dyspnoea, caused by a tumour of the gland the size of a large apple. The operation was performed according to the method recommended by Dr. P. H. Watson, the capsule of the gland being left intact, until the blood-vessels had been ligatured *in situ*. The bleeding was very slight. Antiseptic precautions were taken throughout, and on the ninth day the dressings were found to be unnecessary. The weight of the extirpated gland was 50 grammes. This is the twelfth patient from whom Professor Billroth has successfully removed the thyroid body, the size of the tumours varying from a hen's egg to that of a child's head. The average [time taken for healing to be accomplished] in these cases was seventeen days.

MIKULICZ ON EXCISION OF ENTIRE SCAPULA.—At the same meeting Dr. Mikulicz brought forward a child whose scapula had been excised by Professor Billroth for disease, in last March. Two incisions were employed, one parallel and a little above the spine of the bone, the other at right angles to this, so as to open the shoulder joint. The periosteum was found to be nearly entirely detached, the raspatory being only required at the angles and the edges. The coracoid and acromian processes were snipped off. Listerism was used, and primary union took place, it being found only necessary to dress the wound twice, viz., on the sixth and eighth days after the operation. The patient returned to the clinic in October, and it was then seen that the scapula had been reproduced. The new bone was smaller in every way than that on the sound side. The movements of the arm were free, but elevation of the limb could not be accomplished so freely as in the normal arm. The bone that had been excised was exhibited.

LANNELONGUE ON STRICTURE OF THE RECTUM CAUSED BY PROLAPSUS.—M. Lannelongue (*Société de Chirurgie*, December 11, 1878) called attention to

some facts which might throw light upon the pathogenesis of some strictures of the rectum, situated about 6½ centimètres above the anal orifice, forming a kind of annular valve, with the free border supple, but its adhering border resting on a somewhat indurated base. A child was brought under his notice with prolapsus of the rectum, and some inflammation of the mucous membrane of the protruding gut. Many months afterwards the child returned with a bridle cicatrix on the posterior wall of the rectum, partially obliterating the lumen of the intestine.

Another child had been brought to him in a similar condition. The case had been watched. An examination made later on revealed an ulcerated surface; this granulated, and gradually formed a valvular stricture. In adult patients, where stricture exists from an unknown cause, enquiry should be made as to the existence, in infancy, of rectal prolapse.

TURGIS ON LINEAR RECTOTOMY FOR THE EXTRACTION OF A FOREIGN BODY.—This communication was made at a meeting of the *Société de Chirurgie*, December 11th, 1878.

The patient had introduced into the rectum a chocolate cup. The efforts made at extraction soon after the introduction of the foreign body caused a small piece to be broken off the edge of the cup, the remainder passing higher up the intestine. M. Turgis saw the case on the fourth day. Deeming further attempts at extraction to be useless, a curved trocar was inserted into the anal orifice and brought out 5 or 6 millimètres above the tip of the coccyx, and on the left side of the bone. An écraseur was then introduced, and the section completed without a single drop of blood being lost. By these means the cup was easily seized and withdrawn. The after results of the operation were satisfactory, and the patient recovered in spite of the large quantity of blood he had previously lost, of a wound of the prostate, and a tear of the rectum. M. Turgis thought this mode of extraction preferable to the breaking up of the foreign body.

M. Verneuil stated that Dr. Raffy had performed linear rectotomy in 1860. The sphincter was divided with a bistoury, and it was then found to be easy to manœuvre in the rectum. M. Turgis's case was interesting, for an operation had been performed which, though but slight in itself, had rendered very great service; for it should not be forgotten that the mortality caused by the introduction of foreign bodies into the rectum was 20 per cent.

T. F. CHAVASSE.

SILBERSTEIN ON SPONTANEOUS RUPTURE OF MUSCLES.—This case is recorded in the *Wiener Medizinische Presse*, December 1st, 1878. The patient was a man aged 65, who for some months had suffered from muscular pain in his right arm, but this did not prevent him from following his occupation. On the 22nd of October, he went into the stable to feed his horse. The animal being restive he raised his right arm towards its head; at the same moment he experienced a very severe pain in the arm, accompanied by a cracking noise and a feeling of faintness. He returned home thinking he had sustained a fracture; the faintness gradually passed off and the pain became less intense, but the right arm was stiff and could not be moved. He came under observation the second day after the accident. The entire right arm was then in a remarkably swollen condition. Its measurement, at its periphery, ex-

ceeded that of the left side by 8 centimètres (3½ inches). The skin of the arm throughout looked as though it had been painted, the greater portion being red, but the two extremities were violet. The swelling was hard but not very painful, except at the point where the two heads of the biceps join together; however, every feature was intensified. Except when the elbow was flexed and the forearm pronated, movements did not give rise to much suffering. The patient could not lift up the smallest object. At a later date the swelling and discoloration spread down the forearm to the right carpus; this disappeared in time, but the stiffness and limitation to flexion still remained.

INTRAPARIETAL HERNIA COMPLICATED WITH INTERNAL STRANGULATION; TAXIS; KÉLOTOMY; RECOVERY.—The case brought before us here (*L'Union Méd.*, No. 3, 1879) is one of some interest *à propos* of the line of action to be adopted where such complications arise.

The patient had had a hernia on the left side, about a finger-breadth above the internal inguinal ring, for about eight years. On January 11, 1878, he developed all the symptoms of strangulation of the hernia. On the 13th, the small tumour was reduced with ease under chloroform, and gurgled as it disappeared. Relief was experienced for some hours, but similar symptoms again developed themselves on the 14th. In the evening, kélotomy was performed, and a small sac found between the walls of the abdomen; no strangulation. The neck of this sac was then slit up, and the fingers "were introduced into a large cavity full of coils of congested intestine". On careful search with the finger far back in the pelvis, the opening of this was discovered, and divided with the greatest difficulty. We had before us here an intra-parietal (?inter) hernia, not strangulated, behind which there was a second intra-abdominal (? sub-peritoneal) sac of great size and with a very narrow neck, the true cause of the strangulation."

So great was the difficulty of finding this inner constriction, and danger of dividing it, that the operator advocates in similar cases opening the abdomen by an incision, as in ovariectomy, in the middle line, instead of through the first sac, and thence looking for the constriction in the peritoneal lining of the abdomen. This has been done in an analogous case by M. Terrier (*Bull. de la Soc. de Chir.*, T. iv, p. 361, 1878), when no difficulty was experienced in finding or dividing the constriction. In the case before us the patient recovered.

GUNSHOT WOUNDS INVOLVING SEVERAL VISCERA.—This is a very careful record (*Progrès Méd.*, January 4, 1879) of a case of gunshot injury, well worthy of perusal *in extenso*, although we are unable to do more than briefly abstract it here. An Arab, aged 30, was shot with a pistol containing two balls, on August 9, 1878. Both of these entered in the neighbourhood of the xiphoid cartilage of the sternum; neither emerged anywhere. One aperture in the middle line about a finger breadth above tip of xiphoid, the second more to the left and a little lower down. On entry into hospital, great collapse, but no other symptoms of injury: no vomiting or expectoration of blood. Heart carried towards the right side; sounds feeble, but perfectly normal. Respiration almost normal, feeble behind. Both wounds covered with collodium, as also the whole surface of the abdomen. Liquid diet; draughts of chloral and morphia repeated in small quantities.

Before entry he had vomited, but the ejecta contained no blood.

To be brief, the patient developed, in the course of a few days, well marked pericarditis, and, later still, empyema on left side, but no abdominal symptoms. On the sixth day thorax tapped, and 150 grammes of pus withdrawn; again, on thirteenth day, 800 grammes; again, on fourteenth day, 900 grammes. After remaining in a very grave condition for some weeks, he gradually recovered, and at last left the hospital, contrary to physician's wishes, about nine weeks after the accident. He was urged not to leave, as he still showed dulness over the left lower chest posteriorly with *râles* and evening pyrexia, but his heart was normal, as also the functions of all abdominal organs, and he felt very well. He returned consequently to his business, remaining at home for nearly a month. During this time, his temperature rose each evening, and he had occasional shiverings. Re-entered hospital on November 20, with symptoms of pyæmic and hepatic abscesses, and died on the 25th (108 days after injury), with symptoms of peritonitis, in addition to those already mentioned.

Autopsy.—The cause of death was shown clearly to be pyæmia manifesting itself chiefly in metastatic abscesses in liver and peritonitis; but the interest of the examination of the body lies mainly in the course of the bullets. On removing the skin, etc., the mark of one of the latter is found on the costal cartilage. The second has left no visible mark here. The pericardium is found adherent to the heart in many places, the surface of which latter is covered with villous exudation. On the posterior aspect of the pericardium is an oval, punched-out opening, hardly covered with a light film of exudation; it is 1 centimètre long and 4 millimètres broad. Opposite this opening there is a long groove torn through the muscular substance of the left ventricle of the heart, commencing at the apex, and running from below upwards, and from left to right, but without opening the ventricle at any spot. This groove is cicatrised and marked with the same villousities as the heart. From this the ball has passed on to lodge in the left lung, which is, however, quite sound anteriorly. Behind the lung is an encysted pyæmia, containing 800 grammes of pus, in which the first bullet is found. No trace of the second bullet is found on inner surface of the abdominal walls or on either surface of left lobe of liver. But on the anterior wall of the stomach there is a small, dark-coloured, wrinkled, and depressed scar, 4 millimètres in diameter. There is no aperture of exit marked on the posterior wall of the stomach, but on turning the latter over to the right side the second small bullet is found encysted above the pancreas, and lying upon the aorta. A line uniting its position here with the external scar, and that on the front wall of the stomach, passes through the left lobe of the liver and both walls of the latter, and yet only one scar is found in it, and none in the liver. Of the histological appearances of this scar, which are given in detail, we need only notice that many cotton fibres were found imbedded in the fibrous tissue of which the latter was composed. That the patient should have recovered from such very severe injuries is the most remarkable point of the case, the pyæmia being secondary to the empyæmia.

ARTHUR E. BARKER.

FATOME ON PERIARTHRITIS OF THE KNEE.—M. Fatome (*Thèse de Paris*, 1878, No. 16, and *Bul-*

letín Générale de Thérapeutique) says that this disease may be divided into three classes, according to its progress. These are acute, subacute, and chronic peri-arthritis. In some cases the sheaths of the tendons and the bursæ are oedematous, while in other cases we find that these same organs are dry and thickened; a more or less rapid and abundant suppuration may also be present. The crackling which is peculiar to synovitis crepitans is heard either on the same level with the pes anserinus, or on the bursa patellæ, or lastly on the same level with the bursa on the upper part of the tibia. Purulent gatherings may often present the appearance of some affection within the articulations. A painful spot on the circumference of the articulation is often a symptom of suppuration of the ends of the joints. The moment that the accumulation of matter has been proved, it ought to be removed as quickly as possible. Sometimes the synovial membrane of the joint is also attacked, but this does not occur in the beginning of the disease; it generally remains healthy, thanks to the layer of fibrous tissue which forms between the inflamed place and the synovial membrane.

PLANAT ON THE TREATMENT OF STRANGULATED HERNIA BY ERGOTINE.—Dr. Planat, of Nice, has treated successfully two cases of strangulated hernia with ergot.

The first patient was a man, aged fifty, who suffered from a hernia which had been strangulated on the previous day. Ergot was applied both internally and externally, in the form of ointment, which was rubbed on the tumour every two hours, the latter having been previously washed with warm alkaline water. The internal treatment consisted of 5 grammes of ergot, mixed with 125 grammes of water and syrup, taken every hour. After this treatment had lasted for four or five hours, the vomiting ceased, and twelve hours later the hernia had become spontaneously reduced.

The second case was that of a young man, aged 28, who had worn a truss for several years before the hernial complication set in. The hernia had resisted all efforts to reduce it. Fifteen leeches had been applied to the tumour, but six only took; the symptoms then grew worse, and ergotin was again resorted to, being administered as above. Eleven hours later, when the surgeons arrived to perform the operation, in case the ergot should have proved unsuccessful, the hernia was reduced, and the patient was well. The author suggests whether the drug would not be perhaps more efficient if directly injected into the hernial sac, and not taken internally.

LASALLE ON THE TREATMENT OF NEURALGIA OF THE SUPERIOR MAXILLARY NERVE BY RESECTION OF THE INFRAORBITAL NERVE IN THE ORBITAL CAVITY.—Dr. Lasalle (*Thèse de Paris*, 1877; and *Bulletin Général de Thérapeutique*, November 30) is of opinion that resection of the nerve is the only efficient way of healing, or at least soothing, inveterate chronic neuralgia. It ought to be performed either beyond the painful branches, or between them and the root of the nerve, but as far as possible from its termination. In cases of peripheral neuralgia the pain ceases almost instantaneously after the operation, but if its cause be in the nervous centres, the pain is only temporarily calmed. Having duly considered all these points, the author gives it as his opinion that the most favourable spot

for the resection of the nerve is the orbital cavity, the operation being neither difficult nor the consequences dangerous. This situation is, therefore, preferable to the pterygo-maxillary fossa, where it is very difficult to perform the operation. It is also attended by much danger, so that it ought only to be made when the neuralgic pains have been caused by some traumatic affection of Meckel's ganglion. Dr. Lasalle thinks it also advisable to remove the whole of the superior maxillary nerve instead of simply dividing or resecting it within the orbital cavity, as these operations only afford a momentary relief.

ORTHOPÆDIC SURGERY.

RECENT PAPERS.

1. BARKER, A. F.—Very Extensive Caries of the Spine leading to Fatal Pleurisy. (*Trans. Path. Soc. Lond.*, 1878, vol. xxix.)
2. BARKER, J.—Fatal Case of Ogston's Operation. (*Clin. Soc. Lond.*, November 8, 1878.)
3. BRADLEY, S. MESSENGER.—The Treatment of Genu Valgum. (*Med. Press and Circ.*, November 27, 1878.)
4. BRYANT, W.—Excision of a Portion of the Tarsus for Talipes Varus. (*Clin. Soc. Lond.*, Nov. 22, 1878.)
5. GAY, JOHN.—Genu Valgum; Forcible Straightening. (*Lancet*, November 2, 1878.)
6. GUÉRIN, M. J.—Deviations of the Vertebral Column. (*Archives Générales de Médecine*, January 1879.)
7. HUTCHISON, J. C.—A Case of Bony Ankylosis of the Hip-joint treated by Subcutaneous Osteotomy of the Femur. (*Proceedings of the Med. Soc. of King's County, New York*, October 15, 1878.)
8. MACEWEN, WILLIAM.—Lecture on Antiseptic Osteotomy for Genu Valgum, Genu Varum, and other Osseous Deformities. (*Lancet*, December 28, 1878.)
9. POORE, CHARLES T.—Osteotomy for Deformities of the Legs. (*New York Medical Record*, Sept. 7, 1878.)
10. SIMON, JULES.—The Treatment of Infantile Paralysis. (*Gazette Médicale de Paris*, January 11, 1879.)
11. WALKER, T. J.—The Treatment of Pott's Disease of the Spine. (*Lancet*, December 28, 1878.)
12. WEIL, CARL.—Contributions to the Knowledge of Genu Valgum. I (*Viertejahrsschrift für die Practische Heilkunde*, Prag. xxxvi, 1879, vol. 141.)
13. WILLETT, ALFRED.—Fatal Vomiting following the Application of the Plaster-of-Paris Bandage in a Case of Spinal Curvature. (*St. Bartholomew's Hosp. Reports*, vol. xiv, 1878.)

7. *Hutchison on Subcutaneous Osteotomy of the Femur.*—This is the seventh case performed in America. All have been successful, making a total of thirty-four recorded cases. J. S., aged 27, hitherto healthy, about thirteen months before admission awoke one morning with great pain in both lower limbs, which were drawn up to the body. The left soon relaxed, and the pain concentrated about the right ankle, and an abscess formed there; this was followed by another near the knee. Nine months after the attack, a large abscess was opened over the sacro-iliac synchondrosis, and injected with solution of carbolic acid, after which he improved, and was soon able to sit up. Dr. Hutchison attributes the ankylosis to pyæmic inflammation. On admission the thigh was flexed at nearly a right angle, abducted, and the leg could not be completely extended upon the thigh. Under ether the ankylosis was found to be bony. On June 27, 1878, Dr. Hutchison divided the neck of the femur subcutaneously. The leg was then straightened, but to overcome the abduction the tendons of the tensor vaginæ femoris and the long head of the rectus had to be divided. The patient was put to bed, and extension made by

weight and pulley. No suppuration, swelling, or redness of the skin, and little or no constitutional disturbance followed the operation. Extension was kept up for two weeks, after which the patient was put into a wheeled crutch, the sound limb being elongated by a patten, so as to suspend the diseased one, and allow it to produce extension by its own weight, and also to be moved at the point of section, to prevent union taking place. He left the hospital on September 28, walking comfortably with a stick, without which he limped, on account of pain in the left ankle; the foot was somewhat everted, and the limb two inches shorter than the sound one. A false joint clearly existed at the point of division of the bone, and the patient was able to sit upright with comfort. Dr. Hutchison attaches great importance to the fact that the patient was kept in bed only two weeks, after which the weight of the suspended limb gave all the extension necessary.

8. *Macewen on Osteotomy for Genu Valgum and other Deformities.*—Dr. Macewen points out three objections to the separation of the internal condyle for genu valgum by the saw or chisel. 1. An irregular articular surface is left. 2. A sharp projection of bone on the inner side of the knee is produced. 3. The ligaments and tendons on the outer side of the joint are left untouched. The two first may be remedied by the removal of a wedge of bone in Ogston's line, the articular cartilage forming the apex. All three defects are obviated by transverse division through the expanded portion of the shaft of the femur, just above the condyles, either by simple incision or removal of a wedge. It is sometimes necessary to divide the tibia through the spine. Division of the fibula is never required; it can easily be bent or fractured if necessary. Dr. Macewen operates on both limbs at once, and where the division of the tibia is necessary he does the four osteotomies at the same time. In thirty-three cases, with two exceptions, the temperature never rose above 100.8°, and generally averaged above 100° during the first week. He puts them up in ordinary splints, and if all goes well does not disturb them for fourteen days. The bones are generally firm in five weeks. The best age for operating is from eight or nine to twenty years. In cases of bow legs, Dr. Macewen divides the tibia on its outer side, and then fractures the fibula. On one occasion he performed six osteotomies on one limb at once. The wounds all healed without formation of pus, and the patient recovered with a strong limb.

9. *Poore on Osteotomy for Deformities of the Legs.*—Dr. Poore advises that children showing a tendency to deformity should have proper support as early as possible; they never outgrow these deformities. The age suitable for osteotomy depends on the age at which children become rickety, and the amount of consolidation that has taken place in the bone. Dr. Poore prefers the chisel to the saw, as the section is made easier, more rapidly and with less disturbance of the soft parts. He makes a longitudinal incision three quarters of an inch long over the crest of the tibia, at the point of greatest curvature; the chisel is then applied across the long axis of the bone until fracture takes place. The edge of the chisel should not extend over the outer edge of the bone, or the anterior tibial artery, which is much nearer to the tibia than in the normal condition, may be wounded. The fibula should be cut down upon and divided. When the leg is brought straight, a V-shaped gap exists between the ends of the divided tibia, the apex directed outwards. A

counter opening should be made at the posterior and inner part of this gap, and carbolised horsehair passed through it from the incision over the crest of the tibia, to drain away the blood filling the gap. The horsehair should be removed at the first dressing. The limb is put up on a posterior zinc splint with a footpiece, and, as soon as the wounds are healed, in plaster-of-Paris. The operation and subsequent dressings are conducted on antiseptic principles.

10. *Simon on the Treatment of Infantile Paralysis.*—During the acute or febrile stage, Dr. Simon recommends the use of the vapour bath, administered to the patient in bed, diaphoretics and soothing draughts, with dry cupping or flying blisters to the vertebral column. When disease has entered on its second stage and the paralysis is localised, frictions and kneading. Electricity should also be persevered in; the continuous current is best very weak, and applied from above downwards with precaution. At the same time, fresh air, sea or sulphur baths, quinine, cod-liver oil in the winter, and arsenic in the summer. Gymnastic exercises for the affected limb. In fact, for this stage of the malady the various means calculated to stimulate the muscles or the nervous system should be employed successively or in combination. In the third stage, when deformity has occurred, recourse must be had to orthopædic apparatus. Dr. Simon rejects tenotomy absolutely in cases of paralytic club foot, the only result of the operation being to do away with the action of the only muscles which can serve the child as support.

12. *Weil on Genu Valgum.*—Dr. Weil gives a description of an apparatus invented by Dr. von Heine for the cure of knock-knee, and cites cases treated with it. The paper also contains reports of cases treated by the methods of Delore, Ogston, and others, and a case of death from septicæmia after subcutaneous osteotomy of the tibia and chiselling through of the fibula. The following is a description of the apparatus of Von Heine and its mode of application. The patient lies on a firm mattress, on the healthy side, the knee and hip of which are strongly flexed. The affected limb fully extended rests with the knee-joint in a saddle on its inner side. At the foot of the bed is a screw contrivance with a forked extremity, which grasps the leg immediately over the malleoli and prevents rotation. By gradually tightening the screw the leg is forced from the adducted position into the straight. The pelvis is held down by a strong belt, and a pillow thrust between this and the trunk on both sides prevents the patient rolling over to one side or the other. The patient is gradually accustomed to the constraint of the apparatus until he is able to keep in it for the greater part of the day. The results have been very satisfactory.

ERNEST CARR JACKSON.

MEDICINE.

RECENT PAPERS.

- RIEDEL and TUYEK.—Symptoms of Stenosis of the Respiratory Tracts. (*Berl. Klin. Woch.*, No. 50.)
 LEWITZKY.—A new Symptom of Perforation of the Intestines. (*Berl. Klin. Woch.* No. 47.)
 APOLANT.—Osteomyelitis. (*Berl. Klin. Woch.*, No. 47.)
 MARCHAND.—Tumours of the Bladder. (*Centralbl.*, No. 50.)

SANGER.—Perophritis. (*Centralbl.*, No. 50.)
 BERTHOLD.—Myringoplasty. (*Centralbl.*, No. 50.)
 Hypodermic Injections in Dyspnoea. (*Journ. de Méd. et de Chir.*, No. 12.)
 TERRIER.—Internal Hæmorrhage. (*Journ. de Méd. et de Chir.*, No. 12.)
 HALBERG.—Rupture of the Urethra. (*Berl. Klin. Woch.*, No. 48.)
 WEICHSELBAUM.—Pneumomycosis Aspergellina. (*Allg. Méd. Central-Zeitung*, No. 99.)
 KUSTER.—Treatment of Catarrh of the Stomach. (*Allg. Méd. Central-Zeitung*, No. 98.)
 BENVIL.—Epidemic of Erysipelas. (*Gazette Méd. de Strasbourg*, Nos. 11, 12.)
 GOLDSCHMID.—Diphtheria. (*Ibid.*, No. 11.)
 MERCIER.—Dry Gangrene of the Limbs in Typhoid Fever. (*Arch. Gen. de Méd.*, November and December.)
 DUNAYER.—Rheumatic Erysipelas. (*Ibid.*, Dec.)
 MESNET.—Diphtheria. (*Union Méd.*, No. 147.)
 RICHER.—Cataplexy: hysteria. (*Progrès Méd.*, No. 51.)
 BENNETT.—Treatment of Phthisis. (*Gaz. Méd. de Paris*, Nos. 25, 30, 37, 39, 44, 48, 52.)
 GARCIN.—Nervous Pneumonia. (*Gaz. des Hôpitaux*, No. 150.)
 WOOD.—Notes on Varicella. (*Can. Med. Record*, No. 2.)
 Treatment of Typhoid Fever. (*Ibid.*, No. 12.)
 THOMPSON.—Prophylaxis of Hemiplegia. (*Can. Journ. of Med. Science*, No. 12.)
 ALTHAUS.—Treatment of Ataxy. (*Ibid.*, No. 12.)
 PEPPER.—Primary Intrathoracic Carcinoma. (*Phil. Med. Times*, No. 288.)
 GIBNER.—Diffuse Spasm of the Facial Muscles. (*Ibid.*, No. 288.)
 CLARK.—Varieties of Pulmonary Phthisis. (*New York Med. Rec.*, No. 24.)
 HOWE.—Transfusion of Milk. (*Ibid.*, No. 24.)
 BECKER.—Abscess of the Thigh. (*Berl. Klin. Woch.*, No. 52.)
 WEICHSELBAUM.—Argyria. (*Centralbl.*, No. 52.)
 PFUHL.—Hay Fever. (*Berl. Klin. Woch.*, No. 52.)
 BAALGER.—Foreign Bodies in the Ear. (*Ibid.*, No. 52.)
 WEGNER.—Diphtheria. (*Ibid.*, No. 52.)
 RODET.—Cure of Acute Meningitis. (*Lyon Méd.*, No. 52.)
 HEITLER.—Form of Pleuritic Exudations. (*Wien. Med. Woch.*, No. 52.)
 ULMER.—Wounds of the Chest. (*Ibid.*, No. 52.)
 Yellow Fever. (*Progrès Méd.*, No. 51.)
 PONTIKZO.—Diabetes Mellitus. (*Allg. Med. Cent. Zeit.*, No. 102.)
 MADER.—Dysentery Chronica. (*Ibid.*, No. 102.)
 RITTLER.—Paralysis occasioning loss of voice in Phthisis. (*Ibid.*)
 FRANKEL.—Phosphorus Poisoning. (*Ibid.*, No. 101.)
 THIERS.—New Symptom of Adhesion of the Pericardium. (*Berl. Klin. Woch.*, No. 51.)
 SCHREIBER.—Paralysis of the Cricoarytenoid Posticus. (*Deutsch Med. Woch.*, No. 51.)
 BERGER.—Pachymeningitis Spin. Hypertroph. (*Ibid.*, Nos. 51, 52.)
 LABOULEBENE.—Stomatitis. (*France Méd.*, Nos. 101, 102.)
 CHÉNU.—Pylephlebitis Suppurativa. (*Gaz. Méd.*, Nos. 51, 52.)
 LÉPINE.—Pneumo-Typhoid Fever. (*Rev. Mens. de Méd. et de Chir.*, No. 12.)
 Typhoid Fever in Algiers. (*Gaz. des Hôpitaux*, No. 148.)
 BERNHEIM.—Abscess of the Peritoneum. (*Rev. Méd. de l'Est*, No. 12.)
 GROSS.—Treatment of Goltre. (*Ibid.*, No. 12.)
 LABBÉ.—Morbus Basedowii. (*Le Nouv. Méd.*, Nos. 49, 50, 51.)
 BAUYER.—Phthisis Pulmonum. (*Ibid.*, No. 51.)
 LENET.—Portuguese Method of Treating Wounds. (*El Siglo Med.*, No. 1804.)
 FABRE.—Addison's Disease. (*Union Méd.*, Nos. 150, 151, 152.)
 PÉLISSIER.—Treatment of Puerpera. (*Ibid.*, No. 151.)

COSSY ON CONGENITAL CYANOSIS.—M. Cossy (*Progrès Médical*, January 1878) presented to the Société Anatomique of Paris the following case of congenital cyanosis. A young man, aged 20, had from his birth presented marked cyanosis of the face and limbs, accompanied with palpitation and slight dyspnoea. On his admission into hospital, the anterior and upper part of the chest was covered with dilated veins; his fingers were clubbed, the liver was very large, and the urine loaded with albumen. A very loud double bellows-sound was heard over the cardiac apex; at the base, and loudest over the pulmonary artery, a murmur similar in tone and intensity was heard, but it was single, systolic, and prolonged through the whole cardiac revolution. Autopsy showed the heart to be generally hypertrophied, the septum between the auricles was complete, but there was a large opening in the upper part of the interventricular septum; the pulmonary artery was much constricted at its origin, and its valves thickened and roughened. Ductus arteriosus closed, aorta normal, lungs simply congested.

This case presented, as most such cases do, a combination of the two conditions which have been regarded as capable of causing congenital cyanosis, viz., pulmonary stenosis and communication between the right and left heart. Two opposite theories have been put forward to explain the cyanosis. Morgagni, Louis, Gendrin, Bérard, Cruveilhier, and others maintain that it is due simply to an obstruction in the circulation, or capillary stasis. Cloquet, Gintrac, and others, on the other hand, maintain that it is due to a mixture of arterial and venous blood through a communication either between the right and left auricle (patent foramen ovale) or right and left ventricle. Those who hold the first view believe that the pulmonary stenosis is primitive, and the communication between the right and left heart consecutive; those who support the other view contend that the communication between the two sides of the heart is first in order of development, and is the cause of the narrowing of the pulmonary artery, for, they say, if there is an opening between the ventricles, the blood in the right ventricle tends to pass into the left ventricle instead of into the pulmonary artery, which becomes narrowed. The first of these theories seems the best, for the cases on record fall into three groups. In the first, and by far the largest group, there exist both pulmonary stenosis and communication between the right and left heart; in the second there is either a patent foramen ovale, or an opening between the two ventricles, and no constriction of the pulmonary artery (note, however, that when this is the case, there co-exists disease of the tricuspid valve, either narrowing or insufficiency, sufficient to cause blood stasis); while there is a third group, in which persistent foramen ovale has been found, without any cyanosis. Two such cases have been presented to the Société Anatomique. Hence we conclude, with Louis, that congenital cyanosis is due rather to blood-stasis than to the circulation of a mixture of arterial and venous blood. But Louis' law required that the narrowed or impermeable pulmonary artery should be associated with (as a consequence) a patent ductus arteriosus. It is necessary to respiration and to life, and it is usually found open in autopsies of these cases. But in M. Cossy's case it was *impermeable*! There must then have been a collateral circulation established here of a very sufficient kind, since life was maintained for twenty years. The bronchial arteries, unfortunately, were not examined. They may have been greatly dilated, as has been ob-

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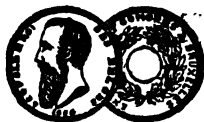
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I have used your Liq. Copaibæ Co. c. Matico frequently during the last twelve months, and with very good results, in both Gonorrhœa and Gleet; in no case has it produced any unpleasant effects, and the results have been so satisfactory that I shall continue to administer it in preference to any other mixture containing Copaibæ.

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served in certain cases. But in such instances caseous pneumonia is usually found to exist in consequence of imperfect nutrition of the lungs; the lungs in M. Cossy's case were simply congested. As to abnormal cardiac bruits, they may be entirely absent; but this is rare; nearly always there is a bellows-murmur, single, systolic, most intense at the base and to the left of the sternum. The second of the two murmurs heard over the apex in the case narrated above was probably caused by the passage of the blood through the orifice in the ventricular septum.

J. BURNEY YEO, M.D.

SCHULZ ON CASES OF LATERAL SCLEROSIS.—Dr. Richard Schulz, of Braunschweig, publishes (*Arch. d. Heilk.*, xviii, 3 and 4, 1877, p. 852) the following cases of lateral sclerosis.

CASE I.—The patient, aged 29, was taken ill two years ago without known cause. No hereditary predisposition. His illness began with weariness in the legs, cramp in the calves, and slight formication. In walking he slipped his feet along, and his gait was somewhat hopping. The functions of the bladder and sexual organs were undisturbed. The muscular system was well developed, nowhere atrophied. He could only walk with support, while even then the tips of his toes caught, to a certain extent, against the ground. There was no ataxy. In bed his legs were stiffly extended and could not be bent. The muscular strength was decidedly diminished; the skin and muscular sensibility were intact; the cutaneous reflex excitability was not increased. Passive movements brought the stiffness of the muscles into stronger relief. In the arms, movements caused only slight tremors. The tendon reflex was increased generally over the body; all the bony prominences of the neighbouring muscles were thrown into reflex contractions by tapping them. Electrical examination showed a diminution of the faradic and galvanic excitability, all over the body.

CASE II.—The patient, aged 29, onanised much to his twentieth year. No hereditary predisposition. His illness began in 1869, with pain in the back, numbness and cramp in the legs. Then the right arm was affected. Since June 1874, he had been confined to bed. The muscular system was not atrophied. He lay on his back, the leg extended stiffly, and so strongly adducted that a cushion was needed between the knees to prevent bed sores. The right arm lay slightly contracted, the first phalanges were bent, the last extended. Sensation and muscular sense were everywhere intact; the muscular strength was diminished. Tendon reflex was quite notably heightened, and in many places the faradic excitability seemed unchanged, galvanic appeared diminished.

CASE III.—The patient, aged 37, came of a healthy family. She was taken in the spring of 1876. The gait of the patient was a little uncertain, reeling, not specially ataxic. The muscular power was scarcely diminished; by passive movements the arms and legs showed stiffness of the muscles, which otherwise was scarcely marked. Sensation was undisturbed; there was moderately increased tendon reflex. Faradic and galvanic excitability were diminished. No atrophy.

CASE IV.—The patient, 59 years of age, with no hereditary predisposition, was affected three years ago with uncertainty of gait. His gait was feeble, tottering; in nowise sliding, even somewhat ataxic. Muscular power and sensation normal; muscular tension presented nothing notable; tendon reflex slightly

heightened—right more than left; sphincters acted well.

ROBERT SAUNDBY, M.D.

CASEY WOOD ON A CASE OF SIMULTANEOUS VARICELLA AND VARIOLA.—Dr. Casey Wood publishes some "Notes on Varicella" in the *Canada Medical Record* for November 1878, wherein occurs the following case. A healthy boy, nine months old, came under treatment for slight bronchitis, with which he was very restless, feverish, and ill. He became much better, and treatment was on the point of being discontinued, when, five days after he was first seen, his mother noticed reddish spots on his back, chest, and head. She thought they might be chicken-pox, as two other of her children were then recovering from that affection. The next day the child's temperature was 102.6°, and his pulse 146. There was a rather copious eruption, and well-defined varicella vesicles on his chest and back. He seemed so very unwell that he was ordered a purgative, and a five-grain dose of quinine. Next morning the vesicles had enlarged to the size of a five-cent piece; others were on the increase, and a few fresh crops had appeared upon the extremities. The child had passed a bad night, and had vomited several times. Morning temperature, 102°; pulse, 140. Upon the face were now observed a few pimples unlike the others, and on the hands a patch of papules quite hard and elevated. Next day these had become vesicular, but the vesicles were small, irregular, and umbilicated, about thirty in all. Temperature, 102°; pulse, 138. Next morning the first crop of varicella vesicles upon his back was drying up, the second crop had become larger, and now a patch of umbilicated vesicles, like those upon the hands and face, had appeared. He was better; the temperature only 100, pulse 115. In two days more umbilicated vesicles appeared on the child's neck and back: all the varicella vesicles had dried and fallen off, no change having taken place in the umbilicated vesicles on the hands and face, except that they had become pustular. A week after, these pustules had dried into scabs, and had fallen off in four or five days more. These changes followed in regular order in the successive crops of vesicles, and three weeks after the appearance of the vesicle, half-a-dozen distinct pits were visible upon the face and hands.

After carefully weighing all the evidence, Dr. Wood concluded that the child had suffered from simultaneous attacks of varicella and variola, and this opinion was afterwards confirmed by the fact, subsequently elicited, that two weeks before his illness the child had been lying on the bed of a patient recovering from small-pox, for half-an-hour. He had never been vaccinated, and although after his recovery the freshest and most reliable lymph was used for the operation, no approach to a vaccinia vesicle formed upon the arm.

EDIS ON A CASE OF GENERAL CANCER INCLUDING THE SUPRARENAL CAPSULES, WITH SYMPTOMS OF ADDISON'S DISEASE.—Dr. Robert T. Edis reports this case in the *Boston Medical and Surgical Journal* for December 19, 1878. A healthy man, aged 33, some nine months before his death, began to experience some loss of strength, though for six months afterwards this was not sufficient to make his friends anxious. His brother-in-law thinks he noticed thus early some change in his complexion. He left America for England in June, and while here had pain in his back when standing or walking,

though he managed to walk some miles every day. In August, severe pain in the back led him to Dr. Heslop, of Birmingham, who considered him to be suffering from Addison's disease. It was from this attack that the patient dated his severe illness. He returned to America, and his symptoms were then noted as being extreme weakness, pain in the back, and emaciation. There was a dark brown streak across the face below the eyes and over the cheek bones, and the backs of the hands were quite dark. Afterwards two streaks were found over the posterior edges of the ilia. The skin of the body was dry and harsh, but not bronzed, neither were the lips nor mucous membrane of the mouth affected. The viscera were all normal, and the blood also. The strength rapidly failed, and emaciation increased. The discoloration became somewhat deeper, and he died on September 24. The abdominal cavity was found crowded with nodules of a white growth (carcinoma), the diaphragm being covered with a layer of the same, and heart, lungs, and pleura were also affected. Both the suprarenal capsules were converted into firm, whitish, nodulated masses, retaining some trace of the general shape of the organs, but nothing like the original structure, with the exception of a few very small spots upon the surface, of a reddish-brown colour. The splanchnic nerves, together with the semilunar ganglia and branches therefrom toward the suprarenal capsules, presented no alterations obvious to the naked eye, except that the ganglia were thicker than sometimes seen. Sections from one of the ganglia hardened in chromic acid were compared with several other specimens, healthy and otherwise, and no morbid changes could be detected. Dr. Greenhow's analysis of nine cases of cancer of the capsules, with discoloration of the skin is then referred to, and with reference to the criticism made by that writer with regard to them, Dr. Edis remarks, "It seems to me that the present case cannot be disposed of like any of these. We have the well-marked and progressive weakness out of proportion to the emaciation. The rapid and feeble action of the heart, the discoloration, which I think I do not err in calling characteristic. It was situated on the parts of the body most exposed to the air, that is, the upper part of the face and the backs of the hands, contrasting most markedly with the paleness of the chin and arms; and also at one or two points upon the back exposed to pressure. These parts were of a uniform brown colour, which, although at first looking like sunburn, deepened instead of growing lighter, after progress of the disease and cessation of exposure. One person who saw the patient while sitting out-doors, said that he looked almost like a mulatto. His family are perfectly clear not only as to the existence of the discoloration toward the last, but as to its presence before his voyage." The case is not typical, from the absence of nausea and vomiting and in the presence of great emaciation. The disease is assumed to have had its origin in the capsules, because they were completely destroyed, while the other viscera were only partially so. The author concludes by expressing the opinion, in contradiction to Dr. Greenhow, that diseases other than cheesy change of the capsules may, if rarely, sometimes give rise to the symptoms of Addison's disease, a view which is by no means inconsistent with the theory now generally held that the clinical phenomena are due to nerve disturbance, and not to the loss of the suprarenal capsules.

JAMES F. GOODHART, M.D.

ARMAINGAUD ON PURPURA HÆMORRHAGICA.—We read in No. 51 of the *Mouv. Méd.* the following case of purpura hæmorrhagica. The patient, a child aged 5, had been sent to the country to recuperate after anæmia; after having spent a few months there it was suddenly taken ill with purpura hæmorrhagica. It was treated at first with tonics, such as perchlorate of iron and quinine wine, and when these drugs produced no result, two hypodermic injections of ergot were given. As these seemed to produce no visible effect, another medical practitioner was consulted, who recommended the continuation of injections. A third was then given, and the next day a change for the better was noticed. After four injections the child recovered. The cause of this disease was attributed to the water which the child had been drinking, and which was drawn from a neighbouring well. On being analysed it was found to contain 1½ centigrammes of organic matter to the litre. As good potable water ought not to contain more than a milligramme of organic matter per litre, this water must have been exceedingly unwholesome.

PONIKLO ON A NEW CAUSE OF TRANSITORY DIABETES MELLITUS.—The author, in summing up the different causes which may produce this affection (*Prjeglád lekarski*, No. 28), mentions another which hitherto has not been noticed. On examining the urine of a healthy person of some twenty years of age two to three hours after dinner, it was found to contain two per cent. of sugar. The other constituents of the urine were perfectly normal in quantity and quality. The only reason given for this phenomena could be that the patient had eaten ice-cream at his dinner. On the next day, when no ice-cream was eaten, the urine was found to be free from sugar. The experiment was repeated, and it was proved that on the days on which ice-cream was eaten, 1.5 to 1.8 per cent. of sugar could be found in the urine, but that on other days it was perfectly free. The quantity of urine passed was never beyond the normal amount. This phenomenon may be explained in different ways. There either existed in the person an intolerance of ice-cream, or the low temperature of the ice or some unwholesome ingredients contained in it, may have produced the sugar in the urine. The author holds the latter opinion.

PACHOT ON DIFFERENT KINDS OF ŒDEMA OF THE LOWER EXTREMITIES IN CONSUMPTIVE PATIENTS.—(*Thèse de Paris*; *Gaz. Méd. de Paris*, No. 1.) Œdema of the lower limbs may arise in consumption from different causes, the principal of which are renal alterations, amyloid degenerations, tuberculosis, venous thrombii and cachexia. Another form which has not been much studied hitherto is due to irregularities in the cardio-pulmonary circulation which originate in chronic perituberculous pneumonia.

This latter complication has been noticed as well in the above-mentioned case as in a simple chronic pulmonary induration; the œdema is persistent, not painful, and does not increase the cachectic state of the patient to any extent. In all the cases quoted by M. Pachot, the sclerosis of the lungs was very considerable, and continued with a considerable thickening of the pleura. The right ventricle has never been dilated, although dilatation has often occurred together with hypertrophy in simple broncho-pneumonic cirrhosis.

FRONMÜLLER ON A CASE OF INTERMITTENT TETANIC FEVER.—We read in the *Memorabilien für Prakt. Aerzte*, No. 11, the following interesting account. The patient, aged 26, had been healthy all his life, till about two years ago, when he had a severe chill, which was followed by an illness lasting four weeks; the principal symptoms of which, according to his account, consisted in periodically repeated convulsions, which proceeded from the spine. The next year he suffered from quotidian fever, was cured, but in the same year received a blow on the head, which left a scar of about an inch long, on the lower part of the left parietal bone. He was treated for scabies in the next year, and after having been cured was imprisoned for some petty offence. During this latter period he complained of headache and pains in the side, and returned to the hospital. He was a weak, ill-nourished subject, of a livid complexion; he complained of cold, shivered, and spoke of wandering pains, especially in the head. These were ascribed to rheumatism, and he was treated accordingly. This happened on April 23rd. On the night between the 24th and 25th he was suddenly seized with opisthotonos and trismus, the lower extremities were kicking spasmodically, the eyes wide open, he was unconscious, and uttered inarticulate sounds; sensibility was extinct over the whole body. This paroxysm lasted for about fifteen minutes. He felt better the next morning, and only complained of the fifth to eighth spinal vertebræ being tender on pressure. During the next two days seven similar paroxysms occurred, mostly at night. They were not epileptic fits, as the thumbs were not drawn in; there was no froth on the lips; the patient's body was cold, and sensibility was extinct as before. From that time the paroxysms were reduced to a single one, which was repeated every evening with almost the same symptoms, and accompanied by rigor. The face was red, the eyes open, and the pupils moderately dilated. As all treatment had hitherto proved unsuccessful, it was resolved to treat the disease as an intermittent fever with quinine, which was given in doses of five decigrammes three times daily. The paroxysms ceased, the patient felt better, and was soon able to leave the hospital. He subsequently informed the reporter that his native village was surrounded by ponds, and that malaria was rife there.

LÖWI ON A CASE OF DICROTIC PULSE IN A SEVERE ATTACK OF DIPHThERIA.—Dr. Löwi gives, in No. 52 of the *Allg. Wien. Med. Zeitung*, the following notes on the abnormal conditions of the pulse in diphtheria. The patient, a little boy aged six years, of a weak constitution, was taken ill in November last with symptoms of mild fever. For the first two days this illness was thought to be a simple catarrhal angina, but on the third day a very thin membrane was seen on the lower part of the left tonsil. The diagnosis of diphtheria was then made. On the evening of the same day the left anterior and posterior pillars of the fauces, and the tonsil on the same side, which was much swollen, were covered with thick yellowish membrane. The lymphatic cervical glands were but little swollen, but the patient complained of a severe headache. The temperature was 103°, pulse 140.

The next morning, November 25, the right tonsil, soft palate, and palatine arch were found to be covered by a thick, yellow, adhesive membrane, which had not yet spread to the uvula. The temperature was lower than on the night before, the pulse 120 to

the minute. Towards night on the same day the lower part of the uvula looked as if it were covered with mother-o'-pearl; both temperature and pulse had risen.

During the two following days the disease had spread over the whole of the mouth and pharynx. The dyspnoea and excitement of the patient were intense. On the morning of the 28th of November the child was less excited and the dyspnoea had diminished; the pulse was small and weak, but distinctly dicrotic on both radial arteries. The diphtheritic membrane was coming off gradually in patches, and half of it had been expectorated during the day. The pulse remained dicrotic for the next two days, and, with the temperature, continued to sink; the membranes had entirely disappeared. This apparent state of recovery lasted till December 4, when the child died of paralysis of the heart, the prostration having been very considerable during the last days. Another medical practitioner who had been called in to see the patient had made the same observation as regards the dicrotic pulse, independently of the first physician.

It is probably the first time that a similar case has come under observation.

KRETSCHY ON A CASE OF CHOREA WHICH ENDED FATALLY.—Dr. Kretschy relates (*Wiener Med. Blätter*, No. 14, 1878) the case of a girl, aged 15, who had always been healthy, with the exception of a slight attack of rheumatism, which had occurred a short time previously. The characteristic movements of chorea manifested themselves soon after some offence had been given her, and rapidly became very marked. She could not sleep in spite of hypnotics. At last, after taking two grammes of chloral, she fell asleep; remained quiet after waking, but soon went to sleep again; became cyanotic and comatose, and died on the eighth day.

At the *post mortem* examination, both the brain and the spinal cord were found to be hyperæmic and œdematous. This gives no clue as to the essence of the disease. Some physicians would thereby be justified in considering cases of chorea which end in a similar way as neuroses.

BAEHRACH ON THE EXCRETION OF IODATE OF POTASS AND SIMILAR SALTS THROUGH THE URINE BOTH IN A NORMAL AND FEVERISH STATE.—(*Centralbl.*, No. 2.) If the same doses were given by the mouth both to healthy subjects and fever patients, iodine could be traced in the urine in about ten to fifteen minutes. If injected under the skin, it appeared in the urine of healthy individuals three to five minutes later, but in fever patients, after thirty or forty minutes, or even later. When bandages soaked in a solution containing 2½ per cent. of iodate of potassium were applied to the skin of the arm or the thigh, the iodine could be detected in healthy persons after fifteen minutes or later, but in fever patients only after an hour or more. The same experiment was repeated with yellow chloride of iron, and it was found that if given hypodermically the results were the same as with iodine, but both this salt, as well as red chloride of iron, when given by the mouth, caused so much discomfort to the patient, and were taken so unwillingly, and in such small quantities, that it was impossible to discover it in the urine. When a solution of iodate was injected in cases of intermittent fever shortly before the shivering fits came on, it was traced after the same interval of time as in patients with high fever, *i.e.*, after forty

minutes and more. The author thinks, therefore, that as the excretion is diminished both during the shivering and the feverish stages, and as it cannot be doubted that the cutaneous vessels are contracted during the former, the same may be assumed to happen during the latter.

PICK ON A PECULIAR NERVOUS AFFECTION OF THE SKIN IN A FEMALE HYSTERICAL IDIOT.—(*Prag. Med. Woch.*, No. 30.) The patient, a servant-girl aged 34, who presented several hysterical symptoms, was subject to a peculiar exanthema, which was repeated monthly about the time of the period, and accompanied by hystero-epileptic fits. Before breaking out, the particular spot on which it was going to appear was always painful and grew red, after one to two days the epidermis turned yellow; the place was covered with little blisters, which later on dried, forming a crust. This whole eruption disappeared spontaneously within a week. Although the affection bears a strong resemblance to herpes zoster, the author, from unexplained reasons, thinks that it ought to be classed among the nervous eruptions; he says that the anomalies in circulation which always accompany menstruation tend to increase the pathological changes which already exist in the nerves, causing both the pains and the eruption.

EASLEY ON TOXIC EFFECTS OF THE BROMIDES.—Dr. E. T. Easley, of Little Rock, Ark., writes to the *Amer. Med. Weekly*, an account of a case in which $\frac{3}{4}$ iij. instead of $\frac{3}{4}$ iij. of bromide of potassium was ordered for a patient suffering from epileptic convulsions of a particularly severe character. The convulsions were not entirely arrested by the amount taken (quantity not stated), but intense bromism was produced, the symptoms of which Dr. Easley summarises thus: The tongue was thickened, slowly and partially protruded by great effort, and covered with a thick, tenacious secretion. 2. The articulation was drawing, difficult, and imperfect. When a question was asked, the answer would be intelligent as far as it went, but it would frequently break off in the middle of a sentence. If the patient were again aroused when this occurred, and the interrogatory repeated, she probably would reply as if vexed: "Well, I have told you." 3. The heart-pulsations were diminished in force and frequency, the pulse falling as low as 60, the temperature to 80°. Respiration, without the stertor of opium-poisoning, was slow and easy. The breath was not only fetid, but nauseous, the nausea peculiar to bromism, and which cannot be well described. 4. The pupils were dilated, the lids of the eyes heavy and opened with difficulty; when shaken and desired to do so, the patient would make the effort, and the voluntary elevator muscles could be seen to strain before accomplishing their function. 5. Constipation, which is the rule under such circumstances, attended in the present instance. Hammond says diarrhoea occurs in rare cases. 6. The kidneys acted freely, and the patient's safety is perhaps due to the rapid elimination of the drug by these organs. The eruption mentioned by some writers was not observed in this case, and the patient made a good recovery.

DISEASES OF CHILDREN.

RECENT PAPERS.

1. ROGER.—On the (so-called) Diphtheroid Ulceration in Whooping Cough. (*Archives Générales de Médecine*, Nov. 1878.)

2. CORY.—On Ulceration of the Frænum Lingue in Pertussis. (*British Medical Journal*, Nov. 9, 1878.)
3. THOMAS, E.—On the Treatment of Whooping-Cough with Carbolic Acid Inhalations. (*Deutsches Archiv Klin. Med.*, xxii Band, 3 and 4 Heft, and by BIRCH HIRSCHFELD. (*Ibid.*, 5 and 6 Heft.)
4. MANNHEIMER.—Treatment of Whooping Cough by Intra-Laryngeal Insufflations of Equal Parts of Sulphate of Quinine and White Chalk. (*Chicago Med. Journ.* and *Exam.*, Aug. 1878.)
5. PENZOLDT, FRANZ.—On a Variety of Epidemic Parotitis. (*Central Zeitung für Kinderheilkunde*, Nov. 15, 1878.)
6. ISHAM, A. B.—On Parotiditis or Mumps. (*Amer. Journ. of Med. Sciences*, Oct. 1878.)
7. (a) CAYLEY.—Pleurisy with Effusion in an Infant Four Months Old. Paracentesis: recovery. (*Lancet*, Dec. 7, 1878.) (b) Note on this subject by Dr. Barlow. (*Lancet*, Dec. 21.)
8. BILLINGTON.—Case of Empyema in a Child Six Years Old, with Pulmonary Cavity, Treated by Free Opening, Drainage, and Injections. Rapid recovery. (*New York Med. Journal*, Oct. 1878.)
9. GÖSCHEL.—On the Antiseptic Treatment of Empyema in Children. (*Berl. Klin. Wochensch.*, Dec. 23, 1878.)
10. CHEADLE.—On Cases of Scurvy supervening on Rickets in Young Children. (*Lancet*, Nov. 16, 1878.)
11. BATTERBURY, R. L.—Case of Jaundice due to the Presence of Lumbrici. (*Brit. Med. Journal*, Nov. 16, 1878.)
12. CHAMBERLAIN.—Case of Infantile Laryngismus produced by a Feather in the Intestine. (*American Journ. of Obstet. and Dis. of Women and Children*, Oct. 1878.)
13. INGERSLEY.—A Case of Trismus and Tetanus Neonatorum. (*Oesterreich Jahrbuch für Pædiatrik*, ii Band, 1877.)
14. STURGES and GOODHART.—On the Rheumatic Origin of Chorea. (*Lancet*, Aug. 31, Sept. 7, Sept. 21, Oct., 5, 1878.)
15. EPSTEIN, ALOIS.—On Milium, or Scrofulus Albus, on the Face of a New-Born Infant. (*Central Zeitung für Kinderheilkunde*, Nov. 15, 1878.)
16. FRANCK.—On the Diagnosis of the Persistence of the Ductus Arteriosus. (*Archives Générales de Médecine*, Oct. 1878, p. 481.)
17. SANSOM.—Notes on the Common Forms of Diarrhoea in Children. (*Obstetrical Journal of Great Britain and Ireland*, Dec. 1878.)
18. TYSON, JAMES L.—Chloral Hydrate and Oxide of Zinc in Acute Intestinal Diseases in Childhood. (*Canada Med. Record*, Nov. 1878.)
19. THOMPSON, G. W.—Spina Bifida cured by Iodine Injection. (*Brit. Med. Journal*, Nov. 30, 1878.)
20. Report of Committee of Royal Medico-Chirurgical Society on Membranous Croup and Diphtheria. (*Lancet*, Oct. 26.)
21. MOIR, JOHN.—On Croup: its Nature and Treatment. (*Edinburgh Medical Journal*, Dec. 1878.)
22. PARKER, R. W.—Tracheotomy in Membranous Laryngitis: the Indications for its Adoption, and some Special Points as regards its after Treatment. (Read before the Med. Chir. Soc. *Lancet*, Nov. 30, 1878.)
23. GUIBOUT.—Hæmophilia with Purpura Hæmorrhagica. (*Gazette des Hôpitaux*, Nov. 9, 1871.)
24. BOUCHUT.—Purpura Hæmorrhagica, Transfusion, Cure. (*Gazette des Hôpitaux*, Dec. 3 and 10, 1878.)
25. DEBRON.—Intussusception, with discharge of about a metre's length of small intestine, in a child eight years old. Cure. (*Gazette des Hôpitaux*, Oct. 31, et Nov. 7, 1878.)
26. Pilocarpin in Children's Diseases. (*Practitioner*, Dec. 1878.)
27. CROCKER, RADCLIFFE.—Case of Scleroderma. (*Brit. Med. Journal*, Dec. 1878.)
28. FOX, A. W.—Case of Cirrhosis in a Boy Eleven Years Old: Jaundice of Nearly Three Years' Duration. (*Brit. Med. Journal*, Dec. 21, 1878.)

29. DE SAINT-GERMAIN.—On the Use of Anæsthetics in Childhood. (*La France Médicale*, Nov. 30, Dec. 4, Dec. 7, 1878.)

30. SIMON, JULES.—Torticollis due to Malaria. (*Re Progrès Médical*, December 21, 1878.)

31. SIMON, JULES.—Infantile Paralysis. (*Gazette Médicale de Paris*, December 28, 1878.)

32. SMIDT, H.—Contributions to the Statistics and History of Typhoid Fever in Children. (*Fahrbuch für Kinderheilkunde*, xiii, 1 and 2.)

33. POTAIN.—Congenital Syphilis of the Liver, Spleen, and Kidneys. (*Gazette des Hôpitaux*, December 31, 1878.)

34. SMITH, EUSTACE.—The Wasting Diseases of Children. Third edition. (Churchill.)

1. Roger on Diphtheroid Ulceration in Whooping Cough.—The object of these remarks is to show that the sublingual ulceration noticed in many cases of whooping cough has no special diagnostic value, and is traumatic in its origin, not a symptom of a specific disease. The ulceration corresponds with the distribution of the teeth; and when occurring, as it does very rarely, before dentition, is probably due to the frequent attempts of the nurse to detach tenacious mucus.

2. On Ulceration of the Frænum Linguae in Pertussis.—Dr. Cory here gives a table of eighty-four cases of whooping cough, in twenty-seven of which ulceration of the frænum linguae occurred. The ages apparently most liable to this ulceration are the third, fourth, and fifth years. There is little doubt that it is caused by the friction against the teeth. The author has never seen it before the lower incisors are cut. Attention is drawn to the fact that the ulceration is most common at that age when children generally protrude the tongue the most; and that its appearance during the second and third weeks of the affection, and disappearance with the spasmodic stage, are quite in harmony with the mechanical theory of its causation.

3. Thomas and Hirschfeld on the Treatment of Whooping-Cough by Carbolic Acid; and 4. Mannheimer on Sulphate of Quinine and White Chalk in Whooping Cough.—In these papers the authors state that the course of the disease is notably cut short by the respective modes of treatment. The German authors give valuable instances in proof of the benefit of the inhalation of carbolic acid. Dr. Mannheimer (4) quotes nine patients treated by the insufflation of quinine and chalk; the ages varying from four and three-quarters to sixteen years. The disease was cured in from four to seven days with one or two insufflations daily. The average duration of treatment was six days.

5 and 6. On a Variety of Epidemic Parotiditis.—Dr. Penzoldt comments on cases of swelling of the submaxillary and sublingual glands occurring as a forerunner of true mumps, or at the end of an epidemic, or sporadically. He considers them as dependent on the same cause, and quotes a case when the sickening of a boy eight years old, with swelling of both submaxillary glands and considerable fever, was followed nine days afterwards by ordinary parotitis in a boy who had sat in the same class at school with the former; and many cases of true mumps occurred in the town at the time. If mumps be due to infection, there is nothing strange, says the author, in the fact of the poison attacking different glands at different times. The object of Dr. Isham's paper (6) On Parotiditis is to show that mumps is an incident in the process of the full development of the salivary glands, occasioned by some exciting cause, which is

generally mastication of food. In corroboration of this view he quotes its well-known outbreaks among new recruits in camps; among the inmates of boarding schools, etc., where no cases have been known to exist in the immediate neighbourhood. The secreting gland cells become distended under the influence of the excessive secretion due to over-movement, and effusion takes place into the connective tissue or lymph spaces, causing the gland to swell. The fact of both parotids not being simultaneously affected in many cases is not opposed to this view, as in many persons mastication is chiefly one-sided. Dr. Isham alludes to the non-recurrence of mumps, connecting it with his theory of the affection being incidental to the normal development of the glands.

7. Cayley on Pleurisy.—These papers refer to pleurisy in childhood. Dr. Cayley (7) reports a case of pleural effusion on the left side, of a week's duration from beginning of illness. The symptoms were urgent. The chest was tapped on Sept. 22, and 8 oz. of turbid serum was withdrawn. On the 29th October the child appeared quite well, with the exception of a slight cough. The breath sounds were audible down to the base of the left lung, but the percussion note over the back was deficient. Dr. Cayley believes this to be the youngest case of pleural effusion on record. Dr. Thomas Barlow, in his note on the frequency of pleural effusion in infancy, quotes several cases published by others and occurring in his own practice; giving fourteen instances of pleural effusion between the ages of eleven months and two years from his own notes of out-patient cases. Pleural effusion in infancy, he says, is probably much more frequent than the text books, and notably the Registrar-General's reports would have us believe.

[Out-patient practice among children strongly corroborates Dr. Barlow's statement.—Rep.]

8. Case of Empyema in a Child Six Years Old.—Dr. Billington's paper is a useful contribution to the surgical treatment of chest disease in children, giving evidence of the value of counter-opening in empyema, and illustrating the toleration by lung cavities of external interference.

9. Antiseptic Treatment of Empyema.—Dr. Göschel pleads for the treatment of empyema in children by opening the cavity under antiseptic precautions according to Lister's method, in preference to paracentesis. Four cases are given in illustration of this treatment: the first of which got quite well in four weeks; the second in one calendar month; the third, with the exception of a small fistulous opening, without deformity of chest, in between three and four months, and the fourth in four weeks. The author draws the following conclusions from these cases. (1.) In recent cases of empyema in children, incision into the chest under Listerian precautions is not only as rapid and harmless a mode of treatment as paracentesis, but less troublesome; and leads with much greater certainty to perfect recovery. (2.) In old cases treatment by incision is alone indicated; and through this Listerian method it loses all danger and troublesomeness. The disinfectant washing out of the chest, when decomposition has not already occurred before the operation, is unnecessary; and so any danger of carbolic acid poisoning is removed. (3.) By this method fever is avoided with much greater certainty than it is by free opening and washing out; and the general conditions rapidly improve. (4.) The secretion dries up more quickly owing to the avoidance of the washing out of the chest. (5.) An ordinary drainage tube is suffi-

cient; metal cannulas and resections of ribs being superfluous.

10. *On Scurvy in Children.*—In this lecture three well-marked cases of scurvy following on rickets in children, from sixteen months to three years old, are narrated; all of which rapidly improved and finally recovered after the addition to the diet of milk and potatoes, which had been quite absent from it; the food having been in all cases chiefly farinaceous. Dr. Cheadle comments on the likelihood of such diet leading to both ricket and scurvy, and calls attention to the notable omission of potatoes from the diet in all these cases—an omission which being rare may account for the somewhat rare occurrence of scurvy in patients fed on diet similar to the above with this exception. The valuable suggestion is made at the end of the paper, that the cases of ulcerative stomatitis so frequent among ill-nourished children, may be due to an imperfectly developed scurvy.

13. *Ingersley on Trismus and Tetanus Neonatorum.*—The first part of this paper is taken up with the detailed relation of a case of tetanus. A full term child was born on the 17th April 1877. On the 26th it had ophthalmic blenorrhœa; and on the 30th it was restless and the stools were of a green colour. During the night it was remarked that the child had a difficulty in retaining the nipple; and this increased so as to almost stop its sucking. On May 1st there were marked symptoms of trismus. Nothing abnormal was found about the child besides a small moist excoriation at the umbilicus. Soon afterwards general tetanic convulsions came on; and after vomiting and diarrhœa and bronchitis had set in the child died collapsed on May 10, the tetanic symptoms having previously ceased. A considerably heightened temperature accompanied the tetanic attack (on one occasion 107 F.), and then albumen and casts were found in the urine. At the *post mortem* examination the brain was found to be anæmic; and in the spinal cord congestion of the connective tissue and venous plexus. The meninges were normal. The cord itself showed no marked change. The liver was normal, but congested; the spleen hard and large. Other organs were normal with the exception of the kidneys; which showed marks of acute nephritis with extravasations. The umbilical veins were normal, without trace of inflammation in their neighbourhood. The rest of the paper discusses the question as to the etiology of the affection. Cases which set in from four to six days after birth, and are accompanied by a notable rise of temperature, hint at an infection as the cause, whilst those cases which set in later and have a more chronic course, have been looked upon as reflex phenomena due to a peripheral irritation; this involves an unknown factor, regard being had to the infrequency of the occurrence of the malady and its occurrence within a limited time after birth. In the case alluded to the late occurrence is striking; and there is the fact of the umbilical excoriation which soon healed, and indigestion a couple of days before the malady broke out. These latter facts, however, do not remove the difficulty of ascribing the tetanus to such causes. Beyond the peri-meningeal congestion in the spinal region nothing of importance occurred in this case as regards the cord. The high temperature is considered by the author as of bad prognosis from the result of previous researches. Nevertheless, the temperature fell in the last three days before death *pari passu* with the cessation of the convulsions; and the complications which occurred might be credited with the final issue. There is a question as to the relation of the

albuminuria and the tetanic seizures. Kussmaul (*Berl. Kl. Wochenschr.*, 41, 1871), in detailing three cases of rheumatic tetanus complicated with albuminuria, suggests a reference to a common cause, such as rheumatic inflammation. On the other hand, the fact of albuminuria following puncture of the floor of the fourth ventricle, as shown by Claude Bernard, may give an analogical explanation, if we can suppose an extension of the spinal lesion, which underlies tetanus, to the centre in the fourth ventricle, and consecutive paralysis of renal vessels with albuminuria. Attention is called in conclusion to the possibility of a close causal relation between the albuminuria and the tetanus, from the analogy of the relations between certain other convulsions and affections of the kidney. As regards treatment, chloral and warm baths are recommended as palliative measures.

14. *The Rheumatic Origin of Chorea.*—In the first of these papers, Dr. Sturges gives an analysis of a large series of cases, with reference to the connection between rheumatism and chorea; arriving at the following conclusions:—(1.) Acute rheumatism, although found but rarely in the history of chorea, nevertheless occurs in such manner of connection with it as to justify the assumption of some direct relationship. The association, however, is so exceptional that it hardly affects the question of the origin of ordinary childish chorea. (2.) Chronic or subacute rheumatism, although appearing in such histories more often than the other, is so difficult of identification; so often disconnected in time; so seldom seen by competent observers in actual company with chorea, and so easily imputed without just cause, that the asserted influence of the rheumatic diathesis, improbable in itself, is not borne out by facts. Dr. Goodhart calls attention to the very frequent fact of a rheumatic family history in choreic cases among children—considering it much more frequent than rheumatism in the choreic themselves; but admitting that if the decision of the rheumatic origin of chorea rested on the previous or subsequent occurrence of rheumatic fever in choreic individuals, he should arrive at the same conclusions as Sturges. In answer to this Dr. Sturges contends, first, that we have no knowledge as to the number of rheumatic relations which may be reckoned to each individual as his fair share; and, secondly, calls attention to the importance of the admission of the small number of choreics that are rheumatic, believing that the reality of the transmission of the rheumatic diathesis requires at least a liability to rheumatism itself in its proof.

15. *On Miliaria on the Face of the New-Born Infant.*—In this paper is described a common eruption seen on the face of new-born children, especially on the nose, chin, cheeks, and forehead, consisting of white or yellowish-white punctiform or millet-shaped papules, either arranged in groups or occurring singly; on the level of the skin or projecting beyond it; and it is shown that these little tumours are sebaceous retention cysts. The eruption lasts seldom more than two or three weeks, disappearing partly by desquamation and the friction of washing, partly by gradual absorption. Sometimes the neighbourhood of these miliary bodies reddens, and they become acne pustules. The author lays stress on the extreme activity of epithelial structures in the foetus; and treats the development of the sebaceous glands as part of the same process. This activity persists after birth, as a want of cleanliness in keeping under the sebaceous secretion soon evi-

dences by its accumulation on the head, female genitals, neck, and groins. Children at the breast also, especially those who are ill-developed, frequently have their whole bodies covered by sebaceous secretion, lasting several weeks. Similar desquamative processes are seen in other glands, such as the breast. Small miliary tumours, consisting of fattily-degenerating epithelium cells, occur also on the hard palate of new-born infants, and on the palpebral conjunctiva. The over-production of sebaceous secretion in the glands leads to its accumulation in the ducts; and so is an important factor in the production of the eruption in question. The anatomical character of these retention cysts, occurring in different parts of the face, whether styled comedo or milium, is essentially alike, both being sub-epidermoid in position; none opening through the epidermis like the comedo of later life. The paper ends with a consideration of the question as to the value of the abundance of this eruption as a mark of the maturity or immaturity of the new-born infant. Out of a series of 141 infants only eight were found to present no trace at all of the above described milium, a similar appearance on the hard palate also generally occurring. But an analysis of these cases shows no direct relation between the abundance of the eruption and the youth of the fœtus, as Küstner (*Arch. für Gynækol.*, Band xii, 1 Heft) had endeavoured to show; and so appears to be no valuable mark of maturity.

16. *Franck on the Persistence of the Ductus Arteriosus.*—The diagnosis of the condition alluded to is founded on the following signs. (1.) The existence of the systolic murmur at the back of the chest, on the left side of the vertebral column, between the spines of the vertebræ and the vertebral border of the scapula, about the level of the third and fourth dorsal vertebræ. (2.) The strengthening of the murmur during inspiration. (3.) The marked increase of the effects of respiration on the arterial pulse. (4.) The absence of cyanosis if there are no other congenital lesions.

17. *On the Common Forms of Diarrhœa in Children.*—The chief interest in this paper is in the parts relating to the etiology of diarrhœa. Dr. Sansom states at the beginning that his experience at the North London Hospital for Children has been that diarrhœa constitutes about one-fourth of all cases. The maximum number occurs in August, September, and October; the minimum in November, December, and January. The most convenient classification for clinical study is that according to age. (1.) Cases in children at six months and under, or the pre-dentitional period. (2.) Those between the ages of six months and two years—the dentitional period. (3.) In children between two and twelve—the post-dentitional period. With regard to the etiology of class 1: the largest proportion is due to *improper feeding*. In sixty-seven cases, there were twenty-four in which this was distinctly shown. Agreeable with this is the extreme rarity of diarrhœa in infants kept wholly at the breast. The next most common influence is that of a *dyscrasia*; and here syphilis is notable. Other causes are irritation, direct and reflex. A considerable number of cases remain whose causation is not obvious. These cases are usually disposed of as intestinal catarrh, but the author thinks that with greater probability the first disturbance is in the cerebral nervous system, very often due to electrical disturbances. In the second period, the author considers the chief cause to be dentition itself, through nervous disturbances; and the most cases appear to occur during the period of *molar dentition*, between nine and fifteen months; the percentage of cases in

this period being more than double that in the period from fifteen to twenty-one months. The next most potent cause of diarrhœa in the dentitional period is a *dyscrasia*. Rickets, improper feeding, whooping cough, or broncho-pneumonia, congenital syphilis, and worms, are mentioned in this order of etiological significance. In the post-dentitional period—two to twelve years—34 out of 110 cases were due to intestinal worms. It is further stated that the presence of oxyurides is the most common cause of blood in stools, and prolapse of the rectum. Rickets and errors of diet are represented in this period as causes of diarrhœa, but most important after worms is the relationship with *zymotic disease*. The question is here discussed as to the likelihood of there being, as Dr. Johnston (*Lancet*, September 21 and 28, 1878) thinks, a direct bacterial cause for diarrhœa in children, and the author inclines to the negative view; believing that most cases may be referred to reflex causes, even those which are admittedly due to pertussis, measles, or erysipelas. The special contagium of typhoid as causing diarrhœa is obvious. Dr. Sansom believes that diarrhœa may be initiated by emanation of decomposing sewage, but more often from drinking contaminated waters.

18. *Tyson on Chloral Hydrate of Zinc in Acute Intestinal Diseases of Childhood.*—The use of enemata of chloral hydrate combined with the administration of oxide of zinc and lactopeptine; baths never at a lower temperature than 80° or 85° (called by the author *cold*); with an attention to the diet, which should be milk added to boiling water, containing a little gelatine and arrowroot, with the addition of some lime water, is recommended in this paper as a treatment of the graver forms of diarrhœa, e.g., lientery with bloody discharge, etc., occurring during the summer months in young children. The enemata are composed of half a drachm of chloral hydrate in two ounces of starch water; 1 or 1½ drachm of this solution to be used at a time. The formula given for the internal remedy is zinc oxid. ʒss.; pulv. acaciæ et sacch. alb. āā ʒij; lactopeptin ʒj; aq. cinnamon q. s. ut ft. ʒj. A teaspoonful every five or six hours.

19. *Spina Bifida Cured by Iodine Injection.*—A spina bifida, situated over the first and second lumbar vertebræ, having rapidly increased since birth, was seen first when the infant was ten days old, on March 8, 1878. The tumour measured about twelve inches in circumference, with a pedicle about two inches by one inch; it was tense but soft. The skin covering the upper part was very thin and ulcerated on its surface. The child took the breast and slept well; the legs could be moved; but the sphincter ani allowed the fæces to dribble away. On March 19 the child had convulsions, and as the tumour was growing rapidly, two ounces of fluid, which was clear, were removed by a hypodermic syringe. On the 25th the tumour was as large as before; two more ounces of fluid were removed, and without removing the syringe needle, twenty-five minims of the following solution were injected (iodine, gr. x, pot. iod. gr. xxx, glycerine ʒj); the aperture was closed and a pad of cotton wool applied with a bandage. The child became very pale and faint, and appeared to be dying. Brandy was given in three drachm doses for some hours, when the child began to recover. The tumour began to grow firmer and showed less fluctuation. On April 2nd it measured seven inches in circumference. The firmness was only at the upper part, especially near the needle-puncture; and fluctuation was quite distinct at lower two-thirds. Four ounces of fluid were drawn off and twenty-five minims of the

above solution again injected. No shock followed this. On April 4th there were some signs of inflammation; pressure was removed; and oiled lint applied. On April 9th, a little fluctuation was still evident. A third injection was made, with very slight consecutive inflammation. On the 29th, tumour was quite firm; no fluctuation or pain on squeezing; and the child was well. On September 1, the tumour was a mass of corrugated thickened skin about the size of a small fig, and perfectly firm. The fæces no longer dribbled away. [In connection with this case see a paper by Mr. A. Pearce Gould, in the Vol. of the *Clinical Society's Transactions* for 1878, relating a case cured by this treatment. It is to be noted, however, that Mr. Gould's case differs from the above in that the consolidation of the tumour began at the lower part. Mr. Gould, on this point, lays stress on the gravitation of the glycerine solution, and its non-miscibility with cerebro-spinal fluid.—*Rep.*]

22. *Tracheotomy in Membranous Laryngitis*.—The following points are a summary of this paper. (1.) Early operation was advocated, before the risks of carbonic acid poisoning are added to the already great danger of mechanical obstruction. (2.) The use of depressants (antimony, etc.) was thought to be injurious. (3.) The chief indication for tracheotomy was to be found in the recession of the softer parts of the chest, rather than in the loud clanging ("empty") cough. (4.) Chloroform to be administered before operating. (5.) After opening the trachea, a feather, or other suitable instrument, is to be passed up into the glottis and drawn into the trachea, in order to clear away all membrane or other mechanical obstruction, as a matter of routine, and in every case. (6.) It was argued that membranous exudation is dangerous, not only because it mechanically blocks up the trachea, but because it is *infective*, and that the object of the surgeon should, in the first place, be to remove any membrane that might be present at the operation, and secondly to prevent its re-formation. (7.) The largest tubes that can be introduced without violence. Angular tubes, rather than the usual quarter-circle tubes, were thought the best. (8.) During the after treatment, the use of steam is highly commended, with or without carbolic acid, creasote, benzoine, or other medicaments, according to circumstances. (9.) Solvents (soda) were recommended to be sprayed into the trachea and mouth. The paper concluded thus:—"Bearing in mind that the operation is undertaken, not as a curative measure, but simply with a view to relieve a mechanical impediment to respiration; seeing, nevertheless, the great frequency with which, after tracheotomy, the trachea and larynx, on the *post mortem* table, are found covered, not to say choked up, with membranous exudation, the following dictum is justified: The presence of membrane in the trachea, in a fatal case of membranous laryngitis after tracheotomy, must be regarded as evidence of the want of due care on the part of the surgeon in charge, just as much as would the presence of a piece of gut in the inguinal canal after herniotomy, or a calculus in the bladder after an operation of lithotomy.

23. *Hæmophilia with Purpura Hæmorrhagica*.—The case reported here occurred at the St. Louis Hospital under the care of M. Guibout. A contrast is drawn between the phenomena of purpura hæmorrhagica and the hæmophilian diathesis, the former occurring in badly-fed individuals and being temporary, the latter being permanent, diathetic, and often hereditary. The case in question resisted astringent

internal treatment, the hæmorrhages appearing as before, and menstruation being very excessive. M. Guibout recognises that the cause of the malady is as yet unknown, and considers treatment useless, and the prospect of recovery when attained distant.

24. *Purpura Hæmorrhagica*.—In these papers M. Bouchut describes, with full comments, an interesting case of purpura hæmorrhagica, with retinal hæmorrhage, abundant epistaxis, and severe anæmia treated by transfusion and cured.

26. *Pilocarpin in Children's Diseases*.—[In a note on this subject is given the following summary of the experiences of Professor Demme, of Berne, with this remedy.] Pilocarpin is an efficacious diaphoretic and sialogogue in the treatment of certain diseases of young children. (2.) In appropriate doses it is well borne by the youngest patients. (3.) Unpleasant symptoms are of very rare occurrence, and can probably be altogether prevented by administering small doses of brandy before the injection. (4.) The cases for which pilocarpin is especially suitable are the parenchymatous inflammations of the kidney, with dropsy following scarlatina and diphtheria. (5.) It is uncertain whether pilocarpin has any direct influence upon the action of the heart. The age of the patients varies from nine months to twelve years; the dose from five milligrammes to two centigrammes.

27. *Case of Scleroderma*.—This case was brought by Dr. Radcliffe Crocker before the Clinical Society of London. The patient was a girl of 13, under the care of Dr. Eustace Smith, at the East London Hospital for Children. The noticeable features of this case, Dr. Crocker stated to be the rapid onset (the process being complete in less than a fortnight); the almost universal diffusion of the induration; the association with acute rheumatism and cardiac disease; the repeated attacks of pericarditis; and the high temperature and œdema. The pyrexia was associated with the renewal of pericarditis; and possibly the caseous cervical glands were responsible for the œdema.

[Cf. on this subject a recent article "Ueber sclerodermie (scleroderma sive sclerema adultorum), bei Säuglingen", by Dr. P. Cruse, *Jahrbuch für Kinderheilkunde*, xiii Band, 1 and 2 Heft.—*Rep.*]

29. *Saint-Germain on Anæsthesia in Childhood*.—In these lectures the following points were insisted on:—(1.) Importance of chloroform as a help to diagnosis, especially in surgical inquiries. (2.) Necessity of using pure chloroform. It should be always stated, in procuring chloroform, that it is wanted for the purpose of anæsthesia. (3.) It is well that the chloroform should be given by the operator himself before commencing the operation, to avoid the risk of an assistant being engrossed with the operation. If any renewal of the chloroform is required, which is rare, a trustworthy assistant may be permitted to give a few whiffs. (4.) Never give chloroform without others being present. Give it on a handkerchief, and boldly. It is to be noted that the amount of chloroform necessary to anæsthetise children, is not in direct proportion to their ages. Great care must be taken with very anæmic subjects, and those affected with bronchial catarrh. With the former anæsthesia is rapidly induced; but sudden movements must be avoided, especially the too rapid removal from the recumbent posture. The latter are difficult to anæsthetise, and so require a large amount of chloroform. Hence the danger. There is no absolute contra-indication of chloroform in heart-disease. Chloroform may be,

in fact, given to all children without distinction. In the operation of tracheotomy, excision of tonsils, and hare-lip, it should not be used.

30. In his lecture on the therapeutics of quinine, at the Hôpital des Enfants Malades, Dr. Jules Simon refers to a case of torticollis due to miasmatic causes. The patient, a child of four years old, had had several attacks of intermittent fever. When seen it had spasmodic contractions of the sterno-mastoid muscle, beginning every day about the same time, and lasting four or five hours. The appetite was bad, and the child was pale and losing flesh. Quinine in the quantity of 50 centigrammes (about $7\frac{1}{4}$ grains) was ordered every day. By the third day the movements had much diminished, and disappeared on the sixth day.

31. The following are the chief points in M. Simon's lecture on infantile paralysis. The disease begins abruptly, in the midst of perfect health, in children from eight months to three years, in the great majority of cases. Sometimes the first fact noticed is convulsions, more often fever, but occasionally the paralysis alone is the first symptom observed. In some rare instances the child is attacked with a sore throat, fever, malaise, and general weakness, and presents the symptoms of an inflammatory sore throat; on this paralysis is discovered. As a general rule the paralysis attains rapidly and from the beginning its maximum of intensity and extent, often attacking at first all the limbs; then it localizes itself, and becomes limited to the lower limbs, for instance, or to the lower limbs and one of the upper, or to one limb alone. It disappears gradually, generally from below upwards, but remains, nevertheless, very apparently in certain groups of muscles. This initial extension depends on general congestion of the cord, while the secondary localization is the result of irregular distribution of the lesions in the grey cells and the white matter of the antero-lateral column of the cord. Sensation, as a rule, is unaffected. Sometimes there is pain, or a little hyperæsthesia at first, but this soon disappears. The senses remain intact, general sensibility is preserved, but the sensibility to reflex action varies a little, according as the lesion has invaded the deep part of the cord or remains limited to its surface. At the same time there is a lessening or complete loss of muscular contraction in response to galvanism. In the course of time the affected limbs become cold and purple, the muscles atrophy, arrest of development follows, and consequent deformity. It is important to remember that as soon as the period of invasion has passed, nothing remains but the paralysis. The child is otherwise well, and its functions good. It is possible for a few days to confuse this disease with an affection previously described by M. Simon (*Gazette des Hôpitaux*, 1874, p. 993), and M. Chassaingnac (*Archiv. Générales de Médecine*, 1856, p. 653), as *paralyse éphémère des bêtes, or paralyse douloureuse des jeunes enfants*. This is a spurious paralysis, of favourable prognosis. The cause can be ascertained, and is either mechanical constriction or chill. The possible confusion of this disease with diphtheritic paralysis, and that arising from Potts' disease of the spine is touched upon, and mention is made of the rare occurrence of hysterical paralysis in young children of the age of six years or even of eighteen months. Lameness from abscess in iliac fossa and hip-disease must be distinguished from the disease in question, and also paralysis of the deltoid, due to cold or rheumatism.

32. This paper is a study of forty-six cases of enteric in children ranging from three to fourteen years old, which occurred in the service of Professor Kohts, of Strasburg, chiefly during the years 1875, 1876, and 1877. The chief points noteworthy are as follows. There were but two deaths. Cases were more frequent as the age was greater. The eruption was clearly seen in 65 per cent. of the cases, and affections of spleen took place in 60 per cent. Out of 24 cases of spleen affections, 12 had a *palpable* spleen-tumour, 7 of these with pain in splenic region; the other 12 had pain, with no palpable tumour. Pain in the cæcal region was observed in 77½ per cent.; and the marked typhoid tongue in 80 per cent. Affections of the respiratory organs were very constant. Signs of bronchitis were present in 85½ per cent. Three times they were complicated with laryngitis. Bronchopneumonia in seven cases. Disturbances of the sensorium were not common, few such symptoms being observed except the nearly constant one of headache. There was only one instance of perfect loss of consciousness, lasting only one day. Next in frequency to simple drowsiness, nocturnal delirium was noticed, even in the less severe cases. In two cases, multiple furuncles occurred, both of them being boys, severely ill. In two cases there were bloody stools, the symptoms in one case beginning on the eighth day, and disappearing quite on the 11th day, the patient having been given pastry. Slight epistaxis was noticed four times. Of the two fatal cases, one died on the fourteenth day of the fever, most of the symptoms having been all along present in a high and unfavourable degree; the second died from perforation four days after she had been free from fever, without having had any solid food. The author thinks the perforation may have been due to frequent moving to and from bed for the purpose of weighing. With regard to treatment, the points to be chiefly remarked are that the diet during the fever was entirely fluid. Three days after the temperature had become normal, an egg a day was allowed, and, later, two or three a day. At the end of a week grated meat was given. Cold baths, of the temperature of 26° Cent., were given for ten minutes as soon as the body temperature reached 39.5° in the axilla.

34. *Eustace Smith on Wasting Diseases of Children*.—The third issue of this well-known manual on children's diseases deserves in a still greater degree the good reputation won by previous editions. It is a characteristically worthy contribution to English practical medicine, being impressed throughout with the marks of careful observation and extended clinical experience. The question of chronic pulmonary phthisis is handled in a new form in this edition, including the heads of pneumonic, tubercular, and fibroid phthisis. Although the author's views on this matter may not meet with universal consent, especially as to the clinical distinctions between the first two of these forms, the chapter is very clear and precise, and full of valuable instruction. The most noteworthy part of the book, is the graphic sketch of a set of symptoms referred by the author to a derangement of the alimentary canal, and grouped together under the term "mucous disease". The concurrence of these symptoms is sufficiently definite to vindicate the title given them, which is clinically valuable in the direction of treatment. Every alteration in the present edition of this book is in the way of improvement and addition to its clearness and practical usefulness.

HORATIO DONKIN, M.B.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

- BOVET.—On the Antiseptic Properties of Pyrogallic Acid. (*Lyon Med.*, January 1879.)
- BREDE.—Use of Chrysophanic Acid in Psoriasis. (*Gaz. Medica Italiana Provincie Venete*, January 1879.)
- BARTHOLOW.—Notes on the Action of Pilocarpine. (*Cinc. Lancet*, December 1878.)
- BREMER.—Treatment of Osseous Tumours of the Meatus Auditorius. (*Annales des Maladies du Larynx*, No. 6.)
- BURQ.—Metalloscopy and Metallotherapy. (*Un. Méd.*, Jan.)
- BUBNOFF.—On the Physiological and Therapeutical Effects of Adonis Vernalis. (*St. Petersb. Med. Woch.*, Jan. 1879.)
- CAVAZZANI.—On the Effects of Quinine on the Circulation. (*Annali Universali di Medicina di Chirurgia*, Dicembre 1878.)
- FOURNIER.—Treatment of Cerebral Syphilis. (*Bull. Gén. de Thérap.*, Jan. 1879, Vol. xcvi.)
- FOWLER.—Use of Salicylic Acid in Erysipelas. (*Ohio Med. Recorder*, December 1878.)
- GUBLER.—Bromhydrate of Quinine as a Febrifuge, and its Advantages when used Hypodermically. (*Journal de Thérap.*, Jan. 1879.)
- GRAY.—Treatment of Chorea with Arsenic. (*Canada Med. Rec.*, Dec. 1878.)
- KLEBS.—Therapeutic Observations. (*Allg. Wiener Med. Zeitung*, Jan. 1879.)
- KROBYNER.—The Hygiene of Infants. (*Bull. Gén. de Thérap.*, January 1879, Vol. xcvi.)
- LEBBEY.—Extract of the Stigmata of Indian Corn and of Pimento. (*Mouv. Méd.*, Jan. 1879.)
- LEWIS.—Diphtheria and Alcohol. (*Med. and Surg. Rep.*, January 1879, Vol. xl.)
- MORITZ.—Inhalation of Carbolic Acid in Catarrh of the Respiratory Tracts. (*St. Petersb. Med. Woch.*, January 1879.)
- MASSEL.—Treatment of Ozena. (*Annales des Maladies du Larynx*, No. 6, 1879.)
- PICK.—Nourishment by Subcutaneous Injections. (*Deutsch. Med. Woch.*, January 1879.)
- REDENBACHER.—On the Use of Bromine in Croup of the Larynx. (*Allg. Med. Central Zeitung*, January 1879.)
- SEGUIN.—Treatment of Chronic Trigeminal Neuralgia. (*New York Med. Rec.*, Jan. 1879, Vol. xv.)
- STADLER.—Treatment of Small-pox. (*Med. Chir. Centralblatt*, December 1878.)
- TERRILLON.—Orthopædic Treatment of Subscapulary Crepitation. (*Bulletin Gén. de Thérapie*, January, Vol. xcvi.)
- ZEISSL.—Treatment of Syphilis. (*Allg. Wien. Med. Zeit.*, Jan., 1879.)

BRAMBLETT ON THE INJECTION OF ACIDULATED WATER FOR ATONY OF THE BLADDER.—In the *New York Medical Record* (November 26th, 1878), Dr. Bramblett publishes two cases in which the injection of cold acidulated water proved serviceable when retention of urine, dependent upon atony of the bladder, existed. The first was a man of weak intellect, who had suffered from syphilis. The patient lived in a remote country district, twelve miles from surgical aid. When first seen there was complete retention, relieved only by the introduction of a catheter. This continued for ten days, when, as there were no signs of improvement, the urine having in the mean time become very offensive, four ounces of spring water (80° F.), acidulated, for want of some

other agent, with cider-vinegar, were injected into the bladder. Three of these injections were given at one time; this process was repeated the next day, and after that the patient was able to pass urine without instrumental aid. There was no relapse.

The second patient was a woman, aged 20, who, when recovering from a severe attack of typhoid fever, was unable to empty her bladder. As there was complete atony, the catheter was used for five days. Four ounces of cold water acidulated, as in the former case, were then injected into the bladder; the same proceeding being repeated at the same time. On both occasions the bladder spontaneously expelled the injection. There was no difficulty after this in emptying the organ. Dr. Bramblett remarks that cider vinegar was suggested because it is an antiseptic of no mean power, and because it seems to have a very decided effect when applied to the inner surface of the uterus in inertia of that organ, and it is always convenient.

T. F. CHAVASSE, M.D.

CROWTHER ON CAPSICUM IN EXTREME CASES OF DELIRIUM TREMENS.—Mr. Bingham Crowther reports in the *Lancet*, January 1879, p. 118, two cases in which large doses of tincture of capsicum rapidly restored the patients after other remedies had failed, and where the symptoms were very severe. In one case there were pneumonic complications, which appeared to be also benefited by treatment.

[The decided value of capsicum in the treatment of drunkenness appears to be established. Dr. Kinnear in the *Lancet*, March 1862, p. 262, drew the attention of the profession to its use, and, since that date, many other observers have confirmed the truth of his statements relative to its efficacy in the cure of delirium tremens. To those interested in the literature of the subject, papers by Dr. Masson, *British Medical Journal*, February 1878, p. 259; and by Mr. Harris, *Lancet*, January 1878, p. 70, in addition to those noted in the *Medical Digest*, section 429:5, will afford most of the information that can be gleaned from the various medical journals since Dr. Kinnear's paper.—*Rep.*]

HITCHMAN ON THE VALUE OF BELLADONNA.—Dr. William Hitchman, in the *British Medical Journal*, January 1879, p. 68, writing of the great therapeutic value of belladonna in many diseases, especially calls attention to its specific effects in small-pox, it never having failed him in a large practice extending over a quarter of a century, during which period he has attended hundreds of cases. The medicine neutralises the disease without producing, necessarily, its toxic effects.

[In the *Medical Times and Gazette*, January 1871, p. 49, will be found an interesting abstract of M. Barbier's opinion of belladonna in the treatment of variola. In a severe epidemic, when many of his confrères were losing many cases, he gave the drug a very extensive trial, and not a single patient succumbed. The magic drops abated the disease on the very first day, and health was speedily restored. So great confidence had M. Barbier in the treatment, that he says, "At whatever moment the practitioner is called in, he may arrest the progress of the disease, just as the alarm bell arrests the progress of a railway train". If others will give the drug a trial, M. Barbier guarantees "an amount of success that will hereafter form a great feature in the progress of science".—*Rep.*]

ORD ON CODEIA IN DIABETES MELLITUS.—Dr. Ord, in the *Med. Times and Gaz.*, Jan. 1879, p. 39,

reports the case of a woman, aged 33 years, admitted into St. Thomas's Hospital, four months after she had noticed the commencement of her complaint. She presented an emaciated appearance, with a harsh, dry skin, weakened sight, and moderate thirst. Urine, specific gravity 1043, containing 1,600 grains of sugar in the 24 hours. After 10 weeks dieting and medication, she had not improved very materially, when a grain of sulphate of codeia was given twice a day. In a week, she gained seven pounds in weight, and the urine fell to 99 ounces in the 24 hours; specific gravity 1020. When she left the hospital, ten or twelve days after commencing the codeia, the improvement, compared with previous results, was very marked, both as regarded her appearance and strength.

MURRELL ON NITRO-GLYCERINE AS A REMEDY FOR ANGINA PECTORIS.—Mr. W. Murrell reports in the *Lancet*, January 1879, pp. 80, 113, 151, the results he has obtained from the exhibition of nitro-glycerine, as compared with nitrite of amyl, in angina pectoris. It was in 1858 that Mr. Field of Brighton and others drew attention to the value of glonoine, nitro-glycerine—nitrate of the oxide of glycol—as it was variously named, in spasmodic affections, epilepsy, neuralgia, etc. (*vide Medical Digest*, section 271:3). At that time it was, and has still continued to be, a trusty agent in the hands of the homœopathist. It was found that glonoine produced the same effect upon the pulse as nitrite of amyl, but that, whereas the latter drug relaxed the vessels in 15 seconds, and that a return to their normal condition occurred in a minute and a half; when glonoine was employed, in proper doses, relaxation took place more slowly, and a normal condition was not resumed for nearly half an hour; a series of carefully taken sphygmographic tracings well illustrate this fact.

Another remarkable result of the glonoine, seen in a patient with epispadias, was the great increase of urinary secretion, which "licked everything" he had ever taken. In a quarter of an hour after a dose, more than ounce and a half of urine was secreted, in excess of his usual quantity. This man was peculiarly unsusceptible to the physiological effects of the drug, as far as subjective symptoms were concerned, complaining of no headache or throbbing, still the effect upon the pulse and urine was most marked. The cases of angina pectoris in which the drug was exhibited, are fully reported, and the marked benefit, that followed its use, can leave no doubt on any mind that, in glonoine, the practitioner has a most reliable agent in this very serious and distressing complaint. RICHARD NEALE, M.D.

FURNEAUX JORDAN ON THE CONSTANTLY MOIST ANTISEPTIC SPONGE DRESSING.—Under this title, Mr. Furneaux Jordan of Birmingham advocates strongly the use of sponges moistened in fluids as a dressing for various operation wounds. He has, during some years, employed this kind of dressing and with much satisfaction. His method briefly is as follows. A sponge, soft, and trimmed to a size sufficient to overlap the area of the part operated on, is moistened with weak solutions, either of carbolic acid, thymol, terebene, etc., and put directly over and in contact with the part. It is kept on with the desired pressure by means of a few turns of soft bandage, or long strips of adhesive plaster. Holes are then cut in the bandages or strips to give free access to liquids. A medicated fluid strong enough

to prevent septicity, and weak enough to prevent irritation of the skin, is poured on the sponge every 30 or 40 minutes through the openings, or at the margins. This dressing must be kept moist night and day, a little jug being used for the latter purpose. The sponge may be left *in situ* (no reactionary hæmorrhage or other accident intervening) for many days, 3, 7, 10, or so.

Some of the many advantages claimed for this dressing are, equable and elastic pressure, rest, "splintage" protection, continuous drainage, economy and constant medication. The demerits admitted for it are, "that it requires for some days all the time and attention of a separate and reliable nurse".

Pending the final judgment of more extended experience of this method of treating wounds, it may be asked whether dressers and nurses are yet generally sufficiently alive to the great dangers connected with the use of sponges to ensure that the latter shall never be brought near a wound except directly out of and after a long sojourn in an antiseptic fluid.

ARTHUR E. BARKER.

MARYNOWSKI ON SALICYLIC ACID AS AN ANTHELMINTIC.—The author (*Allg. Med. Centr. Zeit.*, No. 102) experimented with the above-mentioned drug, in a case where for nine years all remedies had proved useless in presence of a *tænia solium*. The patient took five decigrammes of salicylic acid in hourly doses four times, and after the fourth dose a spoonful of castor-oil. Half an hour later, she passed without any pain a *tænia solium* three metres long, together with the head.

DUNSTER ON THE TREATMENT OF PUERPERAL CONVULSIONS.—E. S. Dunster (*Toledo Med. J.*, Sept.) says: "The use of tartar emetic I have abandoned almost entirely. There are several other ways of treatment worthy of some consideration, in which I have had no experience. One is the use of *veratrum viride* in prodigious doses, called the *Brooklyn treatment*, because first inaugurated there. In this method of treatment, they have been in the habit of giving large doses—doses that would frighten any man in this room—teaspoonful doses of *veratrum* extract they give their patients. And what is remarkable about it, they had most astonishing success. Now I can easily see how, if you rely on a suspension of the causes of convulsions, this might work; I cannot explain in any other way than that it acts on the nerve-centres, and thus produces a cessation of the convulsions."

KNAPP ON ESERINE IN GLAUCOMA.—H. Knapp (*Archives of Ophthalmology and Otology*, Vol. vii, No. 1) says: "If I critically review the series of cases of glaucoma in which I have used eserine, I essentially have to concur in the statements of Laqueur and A. Weber and others, though some opinions that have been advanced on the action and use of eserine are not borne out of my experience. The sanguine hope with which the brilliant result in the first case of an acute glaucoma had inspired me soon vanished, and thus far I can only assert that eserine cures acute glaucoma permanently in exceptional cases; in the others it produces a temporary improvement, by which the patient may be beneficially prepared for the operation. In sub-acute glaucoma, its effect is doubtful, and in chronic glaucoma, with or without sub-acute exacerbations, the remedy either has no effect at all, or is injurious. In corneal fistula and slow closure of corneal wounds from intruding vi-

treous, eserine may be of great assistance. Glaucoma supervening in the second eye during the recovery from the iridectomy of the first, was, in the cases that came under my care, not cured by eserine.

The tendency to produce iritis, which seems to accompany the myotic effect of the remedy in irritable eyes, and the fact that eserine may cause an acute attack in a case of chronic glaucoma, seem to warn us against the indiscriminate use of this powerful myotic.

I shall unhesitatingly begin to treat cases of acute glaucoma with eserine, leeches, aperients, and anodynes, as we treat acute iritis with atropine, etc. If the pupil fully contracts and the attack is completely cured, an operation may, perhaps, never be necessary; but if the remedy produces incomplete myosis and incomplete reduction of the tension of the globe, or if relapses occur, iridectomy should not be delayed. In cases of sub-acute and chronic glaucoma, I shall resort to iridectomy at once. Preparatory to iridectomy, I would employ eserine only when the eyeball is extraordinarily hard, the pupil very wide, and the anterior chamber so very shallow as to render a smooth performance of the iridectomy difficult, or expose the eye to intra-ocular hæmorrhage, in consequence of the sudden reduction of the high extra-vascular pressure. The prophylactic use of eserine in the healthy eye during the first time after a glaucoma operation on the other, which Wecker recommends, may be good practice.

A NEW METHOD OF ADMINISTERING COD-LIVER OIL.—(*Journal des Sages-femmes*, No. 1.) A spoonful of cod-liver oil is well beaten up with the yolk of an egg and a few drops of peppermint, to which half a tumbler of water sweetened with sugar is added. The colour of this mixture is white, it neither smells nor tastes like cod-liver oil, and can be easily taken by the patient.

FRONMÜLLER ON ALOIN AS AN APERIENT.—Dr. Fronmüller (*Memorab. f. Prakt. Aerzte.*, No. 11, 1878) gives an account of his having used aloin hypodermically as an aperient. Aloin is, as is well known, the alkaloid of the aloe, it contains its drastic power, and has often been given internally in pills or solution. We believe that the author has been the first to inject it under the skin for the purpose of moving the bowels.

He administered it in a solution of 1.25, which had to be injected at a high temperature because aloin can only be dissolved in hot water. The result was very satisfactory in almost every case. The patients did not complain of much pain in the bowels, such as is often caused by other aperients; the puncture was seldom painful, and never ulcerated. The motions are rather solid; the bowels are generally moved two to fourteen hours after the injection. In order to be sure of producing the desired effect two injections should be made at once.

FRITZ ON TREATMENT OF ACCIDENTAL AMENORRHEA.—The following directions are given in the *Union Médicale*, No. 151. If the flow has been suppressed by the patient's catching cold, warm hip-baths, vapour baths, and stimulating foot-baths will be found useful. The patients must be well covered with warm clothing, and take sudorific drugs and stimulants, such as ether, acetate of ammonia, or infusion of lime blossoms. Hot fomentations must be applied to the lower part of the abdomen and the genital organs, and mustard plasters to the inner surface of the thighs; cupping might be advisable

instead of the mustard. Stimulating injections will also be found very useful.

This treatment has to be continued for some days, and renewed when the next period is due. If the patient is plethoric, and congestions have been determined in the pelvic organs by the suppression of the period, leeches must be applied to the perineum, the labia or the thighs cupped, and if the patient be constipated, a purgative must be given. If the suppression be caused by some moral cause, and the woman is excitable, the nervous system must be treated with antispasmodics and sedative drugs.

LABARDE ON TREATMENT OF HEPATIC AND NEPHRITIC COLICS.—The author gives, in the *Tribune Médicale*, of January 4th, 1879, the following results of his experiments:—

1. The excreting bilious ducts are contractile, and can therefore, by the influence of a direct or indirect stimulation, be made to contract spasmodically; their contractibility is similar to that met with in the unstriated muscular fibres, which have been proved by histological anatomy to exist in the walls of the above-mentioned ducts.

2. The mucous membrane of the above ducts is innervated by sensitive nerves, as is clearly shown by the pains which follow the expulsion of gall-stones, and the reflex phenomena which manifest themselves by spasmodic contraction of the ducts.

3. These phenomena are specially caused by the presence and contact of foreign bodies, the progress of which are often stopped in the ducts by this contraction. It happens, however, sometimes, that these bodies progress upwards towards the gall-bladder.

4. Anæsthetic and antispasmodic treatment is considered as most effective in this affection.

5. Antispasmodic and anæsthetic drugs, such as morphine, chloroform, chloral, etc., terminate the state of spasm by distending the ducts and allowing the biliary liquid to accumulate, which acts upon the foreign body as a *vis à tergo*, impelling it towards the intestines.

6. A combination of chloral, morphia, and chloroform will prove a very effective means of obtaining the desired results, viz., anæsthesia of the biliary ducts, by which the expulsion of the biliary calculus is rendered painless, and a favourable influence is exercised over the migration and rapid expulsion of foreign bodies.

BROMIDE OF POTASSIUM IN CHRONIC CHILLS.—Dr. L. T. S. of South Carolina writes as follows to the *Southern Medical Record*.

Mrs. P., aged 65, has had third-day chills for three years. The morning after the chill I commenced giving bromide, 15 grains, three times a day. She has had no more chills for the last three years.

A child of Mrs. N., five years old, has had third-day chills for three years. I gave bromide, in five-grain doses, three times a day. It has had no more chills.

The bromide is kept up for several months, three times a day, for eight or ten days, and then left off for as many days. I have been using the bromide as above for the last six or seven years, with uniform success, as a preventive. R. L. S. had chills every summer for several years. I gave the bromide, commencing in the spring. Gave it all summer and fall at intervals as above. He has had no chill since, it being now five or six years. I have seen no unpleasant effect from the use of bromide of potassium.

HUNTER ON TREATMENT OF SHOCK.—Dr. Chas. T. Hunter, Demonstrator of Surgery in the Medical School of the University of Pennsylvania, has lately introduced a new and successful treatment for the general shock following railroad injuries, etc. The patient is at once placed in a bath of 98° Fahr.; the temperature of the bath is then raised to 110° Fahr. As is well known, the temperature of patients suffering from shock is as low as 96° in the armpit. By this method of treatment, Dr. Hunter has been able to raise the patient's temperature from 96 to 98½°, and to reduce his respirations in number from 36 to 20 in the minute. Before the bath, the skin is cold and clammy; on taking the patient out, it is warm and dry. The patient is kept in the bath from ten to fifteen minutes. This treatment has been followed in a number of recent cases in the surgical wards of the University Hospital.

BUBNOFF ON THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF ADONIS VERNALIS.—As it had been noticed that the effects caused by an extract of adonis vernalis were similar to those produced by digitalis, and that in some cases of compensatory troubles the action of the heart could be restored by it, even if digitalis had proved unsuccessful; the author undertook, at Professor Botkin's instigation, to make a series of experiments on frogs, which he subsequently published in the *St. Petersburger Med. Woch.* (January 6, 1879). The results of his experiments are as follows. A diluted solution of the Extract Adonidis Vernalis Aquosum was injected into the crural lymph-bag of a frog, the heart of which had previously been laid bare. It was then noticed, after a certain lapse of time, which in most cases was in indirect proportion to the dose which had been injected, that the ventricle began to contract more strongly. During the diastole the surface of the latter was covered by swellings of different size, resembling aneurisms. These disappeared entirely during the diastole. In a few minutes the contractions of the ventricle decrease in number, though not in strength, and the swellings become much larger. Later on the ventricle often remained for several seconds in systole, the sinus venosus and the auricles were considerably dilated and worked unsuccessfully; at last, after two to four contractions of the auricles a small quantity of blood passed into the ventricle, which again contracted spasmodically, and this was repeated for a few minutes. At last the heart assumed a very characteristic shape, the ventricle was strongly contracted and sometimes very pale, the atrium and sinus venosus were considerably dilated. The contractions of the heart and sinus went on for some time, then stopped, and the heart ceased to beat, still retaining the shape already noted. The frog generally survived the operation, and jumped about, although his heart had ceased beating. If the heart in this state is stimulated by pricking the ventricle with a needle, it responds at first by a few contractions of the atria and the ventricle; after a while the prick only calls forth a few useless contractions of the atria. In short, after a certain time, stimulation by pricking has not the least effect in causing the heart to pulsate. The heart retains its very characteristic shape in spite of all stimulations or irritations which may be applied, such as hypodermic injections of atropin, faradic currents, section of the vagus nerve on both sides, etc. All these experiments, combined with the clinical experiences, lead to the supposition that adonis vernalis contains a poison analogous to digitalis, which strongly affects

the heart, but has certain peculiar properties, one of them being the total absence of dangerous effects, even when this has been taken for a long time consecutively.

GUTSCHER ON THE DEODORIZATION OF IODOFORM.—It is well known that the offensive smell of this most valuable drug, iodoform, often prevents its use. Dr. Gutscher (*Wiener Med. Woch.*, No. 2, 1879) offers the following suggestions for improving it. Any ethereal oil which possesses a strong aromatic odour would overpower the smell of the drug. He made the experiment by adding to each of his preparations of iodoform six drops of peppermint oil, and rubbing them well together. In a few moments the smell of the iodoform had entirely vanished.

GRAZZINI ON THE USE OF COPPER IN DIABETES.—The *Sperimentale* for December 1878, quotes the following case. A man, aged 63, who was suffering from a furuncular eruption on the perineum, the scrotum, and the left hand, consulted Dr. Grazzini. He also complained of an unusual and growing general weakness, which had set in several months previously, and was accompanied by weakness of sight, an unquenchable thirst, the passing of an enormous quantity of urine, etc. The doctor, suspecting that the furuncular eruption might be complicated with diabetes, analysed the urine, and found that it contained 57.88 per thousand of sugar. In order to try the effects of copper in such cases, he prescribed one centigramme of finely pulverised copper, mixed with a gramme of pulverised gum arabic, to be taken twice a day with meals. No special diet was ordered, and the patient was allowed to eat pastry, sugar, bread, and to drink wine.

After twenty days the dose was raised to three centigrammes daily, which the patient tolerated without any trouble. A month and a half after this treatment had been continued, the patient stated that the quantity of urine had greatly decreased, and that he no longer suffered so much from thirst. The next day he was seized with a violent attack of fever, which ceased in two days, but was repeated twice at intervals of a week; it never lasted more than a few hours, and always ended with the evacuation of turbid urine, depositing sediment which became limpid when warmed. The urine being again tested for sugar, the latter had almost entirely disappeared, the quantity only being four per thousand. From this time the patient left off taking copper, felt quite well, and was able to resume his former avocation.

We do not know if this be a case of perfect recovery or only a pause in the processes of diabetes. It is well known that the principal symptoms of the disease can be removed by a flesh diet; but, as a matter of fact, that they reappear after this mode of living has been abandoned. Likewise, no patient has ever recovered his strength and nutritive power under any previous treatment as quickly as was observed in this case.

If the diabetes was not cured by copper, at least the cessation of the phenomena of the disease may be ascribed to it. This experiment ought to be repeated in order to verify it.

SPENCER ON THE CHEMICAL AND THERAPEUTIC RELATIONS OF SALICIN AND SALICYLIC ACID.—(*Reprint from Transactions of Bristol Med. Chir. Society.*) That the therapeutic effects of salicin and salicylic acid are in many respects similar, if not identical, is generally admitted. Senator has fur-

nished a chemical explanation of the fact. Salicin splits up readily, under the influence of ferments, into saligenin and glucose. Saligenin is readily oxidisable into salicylic acid. When salicin is taken into the stomach, salicylic and salicyluric acid appear in the urine. Accordingly the administration of salicin may be regarded as an indirect way of giving salicylic acid, the latter being generated in the system and presented to the tissues at the very moment, as it were, of its formation. Dr. W. H. Spencer criticises the above theory as well as the facts on which it rests. He examined blood drawn from a patient taking large doses of salicin; the reaction characteristic of the glucoside was readily obtained, but no salicylic acid could be detected. Again, the urine passed during a period of twenty-four hours by a patient fully under the influence of salicin, was collected and analysed. Only twelve grains of mixed acid crystals were recovered from a quantity of urine which ought to have contained 50 grains of salicylic acid, supposing all the salicin taken to have undergone the chemical changes assumed by Senator; and this quantity of 12 grains represents glycocine as well as salicylic and salicyluric acid. Even allowing that the transformation of salicin into salicylic acid does occur, the quantity of the acid produced must be inadequate to produce remedial effects. Lastly, Dr. Spencer lays great stress on the results of a clinical comparison between the glucoside and the acid in the treatment of acute rheumatism. He believes himself to have obtained conclusive evidence of the superiority of salicylic acid. His words are, "I gave salicin, in proper dose and form, for some time to patients suffering from severe attacks of acute rheumatism, and I saw little or no results beyond the single result it is admitted to give more tardily than salicylic acid—reduction of temperature. During the exhibition of salicin the urine gave the violet reaction with ferric chloride. Then, after discontinuing the salicin, and finding that the urine no longer gave the violet reaction, I gave to the same patients salicylic acid, also in proper dose and form, and I saw immediate and brilliant results." Only two cases are given, out of a large number, in illustration of the author's statement. In both the use of salicin preceded that of salicylic acid; whether the two remedies were ever given in the inverse order, is not mentioned. E. B. BAXTER.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. AVELING, J. H.—The Spaying of Women. (*Obstetrical Journal of Great Britain and Ireland*, Jan. 1879.)
2. AHLFELD, F.—Relation of Mucous Polypi to Interstitial Pregnancy. (*Centralblatt für Gynäkologie*, 18th Jan. 1879.)
3. BARNES, ROBERT.—Clinical History of the Medical and Surgical Diseases of Women. Second Edition. (J. & A. Churchill, London, 1878.)
4. BINSWANGER.—Anatomical Note on the Indications for Freund's Operation. (*Centralblatt für Gynäkologie*, 4th Jan. 1879.)
5. BISSON, G.—Abnormal Adherence of Placenta followed by Death. (*Année Médicale de Caen*, Dec. 1878.)
6. BOUILLY, G.—Diffuse Pelvic Cellulitis. (*Archives Générales de Médecine*, Jan. 1879.)
7. BRAXTON HICKS.—Three Cases of very large Polypi of Uterus. (*Obstetrical Journal of Great Britain and Ireland*, Jan. 1879.)
8. BRENNER.—Vaginal Cystocele as a Mechanical Obstruction to Labour. (*Centralblatt für Gynäkologie*, 18th Jan. 1879.)
9. BULLOCK, J. G.—Anasarca complicating Pregnancy. (*The Medical and Surgical Reporter*, Dec. 7th, 1878, Philadelphia.)
10. CHARCOT, M.—Hystero-Epilepsy. (*Journal de Médecine*, Jan. 1879.)
11. CLAY, JOHN.—Induction of Premature Labour by Hypodermic Injection of Pilocarpine. (*Lancet*, Jan. 11th, 1879.)
12. CONSALVI, G.—Vesico-Vagino-Rectal Cloaca. (*Giornale Internazionale delle Scienze Mediche*, Nov. 1878.)
13. DORAN, ALBAN.—Complete Intra-Peritoneal Ligation of the Pedicle in Ovariectomy. (*St. Bartholomew's Hosp. Reports*, Vol. xiv.)
14. DUNSTER, E. S.—The Prophylaxis of Puerperal Convulsions. (Reprint from *Toledo Med. and Surg. Journal*.)
15. DUPLAY, S.—On the Indications and Contra-Indications for Ovariectomy. (*Archives Générales de Médecine*, Jan. 1879.)
16. FISSIAUX.—Stricture of the Urethra in the Female. (*Annales de Gynécologie*, Jan. 1879.)
17. GUENIOT.—Occlusion of the Vagina by the Hymen in a Woman in Labour; Incision of this Membrane and Spontaneous Termination of the Labour. (*Archives de Tocologie*, Jan. 1879.)
18. GUSSEROW, A.—Case of Labour with Cleft Pelvis. (*Berliner Klinische Wochenschrift*, Jan. 14th, 1879.)
19. JOHNSTON, GEORGE.—Clinical Report of 752 Cases of Forceps Delivery. 1879.
20. KENNEDY, RICHARD A.—Case of Extra-Uterine Pregnancy. (*Canada Medical Record*, Dec. 1878.)
21. KITCHEN, J. M.—Case of Protracted Gestation. (*American Practitioner*, Dec. 1878.)
22. KLEINWACHTER.—The Induction of Premature Labour by Chlorhydrate of Pilocarpine. (*Archiv für Gynäkologie*, Band xiii, p. 280.)
23. KNOX.—Case of Intra-Uterine Amputation of Fingers and Toes. (*Glasgow Medical Journal*, Jan. 1879.)
24. KOCW, J.—New Method of producing Sterility in Women. (*Centralblatt für Gynäkologie*, Dec. 21st, 1878.)
25. LANDI, PASQUALE.—Diagnosis of Ovarian Cysts. (*Commentario Clinico di Pisa*, Dec. 1878.)
26. LEHNERDT, O.—Removal of a Calcified Fibroid Tumour by Crushing. (*Zeitschrift für Geburtshülfe und Gynäkologie*, Band iii, Heft 2.)
27. LINDEMANN.—Complete Prolapsus of the Womb during Labour. (*Allgemeine Medizinische Central Zeitung*, Dec. 21st, 1878.)
28. LITZMANN.—Contribution to the Statistics of Cesarean Section by Porro's Method. (*Centralblatt für Gynäkologie*, Jan. 4th, 1879.)
29. MARTIN, A.—Lithopædion Removed by Laparotomy. (*Zeitschrift für Geburtshülfe und Gynäkologie*, Band iii, Heft 2.)
30. MILNE, ALEXANDER.—The Principles and Practice of Midwifery. Second Edition. E. and S. Livingstone. Edinburgh, 1879.)
31. MÜLLER, P.—The Anatomical Condition of the Cervix Uteri during Pregnancy. (*Archiv für Gynäkologie*, Band xiii, S. 150.)
32. NEWMAN.—Dropsy of the Amnion. (*St. Louis Medical and Surgical Journal*, Dec. 1878.)
33. PORAK.—The Absorption of Medicines by the Placenta and their Elimination in the Urine of New-born Children. (*Archives de Tocologie*, Jan. 1879.)
34. SUSSDORFF, G. E.—Radical treatment of Local Disease at the Menopause. (*New York Medical Record*, Dec. 1878.)
35. VACHER, FRANCIS.—An Abdominal Shield for Improving the Obstetric Binder. (*Obstetrical Journal of Great Britain and Ireland*, Jan. 1879.)
36. WIGLESWORTH, A.—Case of Occlusion of Os and

Cervix Uteri accidentally produced. (*Obstet. Journal of Great Britain and Ireland*, Jan. 1879.)

37. WILLIAMS, CORNELIUS.—Case of Tubal Pregnancy terminating by Expulsion of the Fœtus through the Natural Passages, and Recovery of the Mother. (*New York Medical Journal*, No. 6.)

1. *Spaying of Women*.—Dr. Aveling states that a bibliography relating to the spaying of women is to be found in the *Satyra Medica* of George Frank de Franckenau, 1722. Also, that at a meeting of the Royal Medical and Chirurgical Society of London, held on Tuesday, June 3rd, 1823 (Mr. Abernethy, President, in the chair), the following paper was read, and thanks voted to the author for his communication: "A Contribution of Experiments and Observations on Injuries of the Belly, considered in their relation to Abdominal Surgery, by James Blundell, M.D., Lecturer on Physiology and Midwifery at Guy's Hospital, communicated by J. H. Green, Esq." From the experiments, which are briefly noticed, the author suggested that the following inferences may be drawn. "1st. That the generally received opinion that inflammation in a spot of the peritoneum will almost invariably diffuse itself over the greater part of that membrane is unfounded on truth. 2nd. That extensive divisions of the peritoneum are not of necessity fatal, and that the womb, spleen, and ovaries may be taken away without necessarily destroying life. Reasoning from these facts and observations, Dr. Blundell suggests the *extirpation of the healthy ovary*, the extirpation of the ovarian cyst or dropsy, or a portion of it, the removal of the cancerous womb, the *puerperal uterus*, and of part of the bladder and spleen." Further, "*The extirpation of the healthy ovaries* would probably be found an effectual remedy in the worst cases of dysmenorrhœa, and in bleeding from monthly determination on the inverted womb, where the extirpation of the organ was rejected." Dr. Aveling says, "We are compelled to answer the question, Who first proposed extirpation of the healthy ovaries as a remedial operative procedure? by replying, James Blundell, M.D." Who first performed the operation? As a matter of fact, Professor Hegar of Freiburg first performed it; but to Dr. Battey belongs the credit of popularising it, as well as the priority of publication. This paper was not published in the *Transactions* of the Society, but was printed in abstract two years after, in a small volume, entitled, *Researches Physiological and Pathological*, by James Blundell, M.D., and headed, "Substance of a paper read before the Medical Chirurgical Society of London in the year 1823".

3. *Barnes's "Diseases of Women"*.—The second edition of this book contains a large amount of new matter, although it has not been increased in size. It now contains 181 illustrations, of which the majority are original and drawn from nature. The chapter on bowel and bladder diseases, considered especially in relation to uterine disorders, is new, and forms a valuable addition to the work. The author draws attention to a hitherto unnoticed anatomical fact, namely, that Douglas's pouch descends much lower on the left side than on the right. This has been made out in part by plaster casts on the dead subject. In addition to these and other new features, the book has been throughout subjected to conscientious revision.

11. *Induction of Labour by Pilocarpine*.—M. A. G., primipara, aged 28, with spinal curvature and deformed pelvis, conjugate diameter $3\frac{1}{4}$ in., was sent

into the Queen's Hospital, Birmingham, to be under the care of Mr. John Clay, Nov. 4th, 1878. It was determined to test the action of pilocarpine as an oxytocic. Eight hypodermic injections in all, that is two a day, one at 10.30 a.m., the other at 4.30 p.m., for four days, were given. A solution of nitrate of pilocarpine of five grains to a drachm of distilled water was prepared, and four minims of the solution, equal to $\frac{1}{4}$ of a grain, were given as a dose. The following is the synopsis of symptoms observed after each injection. Before the injection the pulse was 92; temperature 97°; respiration 18 per minute. At end of second minute there was flushing of face, ears, and neck; pulse 120; respiration 26. Third minute: salivation; eyes suffused and pupils slightly dilated; pulse 130; respiration 30; skin moist. Fourth minute: profuse perspiration; saliva running from mouth; pulse 110; respiration 28. Fifth minute: pulse 72; pallor. Sixth minute: pulse 62; temperature 97.8°; coldness of extremities; sight hazy; respiration 20. Seventh minute: pulse 60, less soft and full. Eighth minute: pulse 72; retching; sickness; respiration 20. Tenth minute: pulse 72; temperature 97.6°; depression; sight still hazy; pupils normal; a desire to micturate. Twelfth minute: pulse 80; temperature 97.6°; vomiting; perspiration diminished. Fifteenth minute: pulse 80; temperature 97.4°; vomiting; sight normal. Twentieth minute: pulse 100; temperature 97.6°; skin moist. Thirtieth minute: pulse 96; temperature 97.6; skin moist; saliva still running from mouth. At the end of an hour: feels sleepy; pulse 108; temperature 98°; respiration 16. At the end of two hours and a half: temperature 99°; pulse 112; skin dry; the effects of the drug, excepting depression, seem to have passed off. At the end of six minutes after the first injection the pulse was 62, and hardly perceptible. The collapse was so great that it was feared she would not rally. This collapse was not present after the subsequent injections. The variations in temperature were slight, a rise of $\frac{1}{4}$ ° to $\frac{1}{2}$ ° at the end of six minutes, followed by a fall of $\frac{1}{4}$ ° to $\frac{1}{2}$ °. At the third and subsequent injections, sickness came on at the third or fourth minute. No frontal headache or giddiness, but always great depression. There appeared a greater tolerance of the remedy after each injection, and as there were no pains at the end of the second day, the dose was increased to five-twelfths of a grain. On vaginal examination forty-eight hours after the first injection, a slight bloody and watery discharge was observed, indicating probably an escape of liquor amnii. The cervix freely admitted the finger, but was very rigid. The head presented, and the membranes were believed to be entire, or if ruptured, it must have been at some distance from the cervix. On the fourth day of the proceeding the os was dilated to the size of a halfpenny, but still rigid and pointing backwards. The vertex had engaged in the brim, and labour pains were present at intervals of fifteen minutes. The dilatation was completed by Barnes's bag, and a living child, sex not stated, delivered by the forceps under chloroform. Mother and child are progressing satisfactorily. This is believed to be the first case recorded where pilocarpine has been used in this country. [Hyeriaux's experiments with pilocarpine are recorded in the LONDON MEDICAL RECORD for Jan. 1879. The results were adverse.—*Rep.*]

12. *Vesico-vagino-rectal Cloaca*.—Angiola Deserio, aged 25, was admitted into the wards of Prof. Morisani, Naples. She had been delivered of her

first child by the forceps after being left by a medical man and a midwife with the presenting head in the pelvic cavity during seven days. The pelvis was normal. A week after delivery, she found that fæces and urine escaped promiscuously from the vulva, and applied at the hospital. On examination it was found that externally the genitals were normal, and the anal sphincter intact. Internally it was found that the anterior wall of the bladder was exposed, and formed the anterior boundary of the cloaca; above, the base of the bladder adhering to the rectum by cicatricial bands; behind, the recto-vaginal septum had entirely disappeared, and the boundary was formed by the posterior wall of the rectum. At the upper posterior part of the cloaca was the opening into the upper part of the rectum. Probably the ureters were attached to the remaining part of the bladder, and so opened into the cloaca. The uterus could be felt as a hard body above the cloacal cavity, from which it was separated by cicatrices. The os uteri could not be felt. The patient was obliged to remain in the recumbent posture; if she stood up, fæces and urine escaped promiscuously. Total occlusion of the vulva was effected by the operation of episiorrhaphy. A cannula was inserted through the anal aperture to permit of the exit of fæces and urine, and removed on the seventh day. On the 19th day after the operation, the anal sphincter was under voluntary control, and the patient could walk about without escape of fæces or urine. The anal was the only orifice left in the external genital parts. The patient completely recovered her usual health. The re-appearance of menstruation has not been observed.

13. *Intra-peritoneal Ligature in Ovariectomy*.—Mr. Doran concludes, from the results of ten *post mortem* examinations made during the last year at the Samaritan Hospital, that the complete intra-peritoneal method of ligature offers better chances of recovery than the clamp. This is especially the case where the operation is performed with all the rigid antiseptic precautions of the Listerian school of surgery.

18. *Labour with Cleft Pelvis*.—Dr. A. Gusserow had the following case under his care 17th Nov. 1878, in the Charity Hospital. A girl aged 19 came to the hospital in labour. She was the subject of ectopia vesicæ. The following is a translation of the account of the condition, presented. "At the lower third of the anterior abdominal wall was the posterior wall of the bladder. It was red and covered with a moist mucous membrane 7 centimetres broad and 5 centimetres long. At the lower margin of this membrane were seen the two openings of the ureters from which urine dribbled continuously, and frequently spurted out a distance of a foot under the contractions of the abdominal walls, and during labour pains. The skin over the abdomen in the neighbourhood of this projecting posterior wall of the bladder was cicatricial in appearance, and of a brownish hue. No umbilicus was to be seen. Underneath, the wall of the bladder was continued as a fold of skin about 2 centimetres broad, of a bright red colour, but not showing the characters of mucous membrane, although part of it was regarded as being the posterior wall of the urethra. Under this was the opening of the vagina, 3 centimetres long and 5 centimetres broad, which was irregular in shape, owing to the absence of the sphincter vaginæ. This opening was surrounded by two very rudimentary, irregularly shaped projections of skin, which represented the labia majora and minora. At the

upper margin of the opening were two well developed folds of skin, which were the divided corpora cavernosa of the clitoris. Under the skin could be felt and seen the two ends of the divided rami of the pubes, about 8 centimetres apart. The interspace was partly filled in by the posterior urethral wall, and partly by skin spreading from the integument covering the pubic rami. The outer margins of this skin were sparsely clothed with pubic hair. From the lower margin of the vaginal opening was stretched a tense perinæum 4 centimetres in length, which, together with the anal aperture, appeared to be directed forwards and upwards. This unusual condition was further complicated by the protrusion, through the small and irregularly shaped vaginal opening, of the child's foot as far as the ankle, and a pulseless loop of knotted umbilical cord, which had also prolapsed." The waters had burst two hours before her admission into the hospital. Although the uterine contractions were powerful, the labour did not progress, and Dr. Gusserow made two incisions from the sides of the vulvar opening towards the tuberosities of the ischia. This he did to enlarge the opening and to avoid the rupture, which appeared imminent, of the posterior bladder wall. The delivery of the child and placenta was then readily effected. Lying-in normal. Dr. Gusserow states that up to the present time only five cases of labour have been observed in similarly deformed pelvises. The first by Bonnet, 1722; the second by Ayres, 1859; the third by Litzmann; and the fourth and fifth by Günzburg, who published them in the *Petersburger Medizinische Zeitschrift*, 1872-73.

19. *Forceps Delivery*.—Dr. George Johnston gives a clinical report of 752 cases in which he delivered by the forceps. In this paper there are two salient points of practical importance. First, the application of the forceps before the full dilatation of the os uteri, and, second, the more frequent use of it during the second stage of labour. Of the 752 mothers delivered by the forceps, 58 died. Of the children, 372 males and 266 females survived; 37 male and 17 female children were born dead; 37 male and 23 female children born alive did not survive. Chloroform was used in 537 cases, in most of which it was pushed to full anaesthesia, and always with satisfactory results, the patients recovering sensibility within a few minutes after its withdrawal. A full dose of ergot was always given previous to the chloroform to guard against *post partum* hæmorrhage. The instrument used was Barnes' double curved long forceps. In no instance was any injury of the uterus or vagina caused by the instrument. Laceration of the perinæum did sometimes occur, but not to any serious extent, nor was it attributable to the forceps, as from the precautions always taken in removing the blades, as soon as the head descended so low that the occiput was brought under the arch of the pubes, and the forehead to bulge the perinæum, such an accident was avoided.

22. *Induction of Labour by Pilocarpine*.—Dr. Kleinwachter gave three hypodermic injections of chlorhydrate of pilocarpine in doses of two of 20 milligrammes and one of 14 milligrammes to a secundipara with contracted pelvis and vesico-vaginal fistula, in the thirty-third week of gestation. Two injections were given on the right thigh on the 29th May. Vomiting, diaphoresis, rapid pulse and salivation followed, and uterine contractions set in an hour and a half after the first injection. An hour and a half after the second injection the membranes burst, but the pains went off during the night. On the

30th May, at 6 p.m., the third injection was given. This was followed by nausea, but the patient did not vomit. The diaphoresis began ten minutes after the injection, and on the cessation of the sweating stage labour pains recommenced. The pains grew stronger and stronger, and at two o'clock in the morning the os was dilated to the size of a florin, and an arm and portion of the umbilical cord protruded. Delivery was effected by version at 10 p.m. on May 31. The child was a dead female. There were symptoms of metritis during the lying-in, but by the ninth day the patient had completely recovered.

24. *Production of Sterility*.—Dr. Kock's method of producing sterility consists in introducing a copper-wire sound with a platinum tip into the uterus, and pushing it along towards the funnel-shaped openings first of one then of the other Fallopian tube. The galvano-cautery is turned on for one minute, and the orifice of each tube is cauterised. The burnt tissue heals into a scar, which closes the uterine openings of the Fallopian tubes. He has practised this operation once without chloroform. The pain felt by the patient was very slight.

26. *Removal of a Calcified Uterine Fibroid*.—The patient, aged 56, had a tumour in the cavity of the uterus of the size of a child's head. Dr. Lehnerdt, on examination, found it had become calcified. He dilated the os uteri by incisions, and removed the tumour at two sittings by gouging and crushing. It was adherent to the fundus of the uterus. The patient recovered.

27. *Complete Prolapsus Uteri in Labour*.—Frau S., aged 40, multipara, previous labours natural, had been in labour twenty-four hours. About three hours before the arrival of Dr. Lindemann, the uterus had been completely expelled during a long and powerful pain. The inverted vaginal wall was stretched out round the uterus, which lay between the woman's thighs. The membranes had ruptured before the prolapse occurred. The os was dilated to the size of a five-shilling piece, rigid, and closely adapted to the presenting head. The womb was in a state of tetanic contraction. The patient was exhausted, and the pulse small and frequent. Fœtal heart inaudible. The vaginal wall containing the prolapsed uterus was oiled and enveloped in a warm cloth. The application of the forceps failed on account of the extreme force of the contraction of the womb upon the fœtal head. Dr. Lindemann therefore perforated, emptied the head, and delivered with the forceps and two fingers inside the cranium. The placenta followed. During the extraction of the child, the midwife held the uterus back in the cloth. The womb was then returned and the vagina plugged with some oiled rags. The uterus contracted well; lying-in normal.

28. *Cæsarean Section by Porro's Method*.—Frau W., aged 29, secundipara, with contracted pelvis, previously delivered by craniotomy. On examination, the os uteri was found to be absolutely undilatable, on account of cicatricial bands which involved it and the adjacent tissues. Dr. Litzmann performed Cæsarean section, and then removed the uterus after the manner recommended by Porro. A living female child was extracted. No blood was lost in the operation. Unfortunately the patient died on the sixth day after the operation from septic peritonitis. At the *post mortem* the origin of the septic material was found in a collection of foul pus in the cavity of the cervix, between the point of ligature of the uterine stump and the almost occluded

os uteri. Dr. Litzmann thinks that had he carefully closed the uterine end of the cervix by deep and superficial sutures, as recommended by Schröder, and washed out the cervix with carbolic solution, the patient might have been saved. The operation was performed antiseptically on June 14, 1878. Labour pains had been present from June 12. The waters broke on the 12th, and slowly trickled through the os uteri, which was so small that a sound could not be passed.

29. *Removal of a Lithopædion by Laparotomy*.—Dr. A. Martin removed a lithopædion by laparotomy in a woman, aged 37, who had given birth fifteen years ago to a living child. The first symptoms of the extra-uterine gestation occurred seven years ago, when she had sharp sudden pain in the abdomen, which disappeared after the application of leeches. Bimanual examination revealed a hard tumour in the pelvis, which could be pushed up without much trouble. The tumour on removal weighed 220 grammes, and was the size of a man's fist. The patient recovered.

30. *Milne's "Midwifery"*.—This manual has been much improved in the second edition. The author insists upon the more recent and enlightened teaching of timely interference during the second stage of labour, which was first so ably and successfully set forth in theory and practice by Dr. George Johnston during his mastership at the Rotunda Lying-in Hospital. The book concludes with some chapters on the more common diseases of women. The rhymes and couplets which formed so peculiar a feature in the first edition have been wisely suppressed.

31. *Condition of the Cervix during Pregnancy*.—Dr. Müller states that he found the following microscopical appearances in the cervix from the section of a frozen womb in the seventh month of pregnancy. The woman had died of pleurisy. The whole uterus measured 9.445 inches. The cervical cavity to the os internum, which he calls Müller's ring, measured 1.181 inches. The os externum was closed, and the diameter at the lower part of the cervix measured .394 of an inch. At the ring of Müller (os internum) the diameter was .787 of an inch. Above this, the uterine cavity suddenly widened out. The distended membranes did not protrude through the os internum. From the fundus uteri to the ring of Müller the muscular fibres gradually diminished. The membranes were closely adherent to the walls of the uterus as far as the ring of Müller. The decidua was homogeneous from the placenta to the ring of Müller. From the ring or os internum to the os externum the cervix displayed the normal character of cervical mucosa. Müller, therefore, maintains that the true decidua ends at the os internum; that the cervical mucosa begins there, and that the cavity of the cervix remains intact during pregnancy.

33. *The Absorption of Drugs by the Placenta*.—Dr. Porak concludes from his observations that all medicines given in sufficiently large doses to parturient women have been found present in the urine of the new-born children. Nothing shows, therefore, that certain substances are unable to traverse the placenta. The quantity which it is necessary to give to ensure the passage of the medicine through the placenta varies. Consequently the law of absorption of medicines by the placenta varies.

34. *Treatment of Local Disease during the Menopause*.—The conclusions arrived at by Dr. Sussdorff are: 1. The time of the menopause, as regards the inception and aggravation of disease, equals in importance that of puberty or any other epoch of life;

2. That while, as a rule, the majority of functional and organic diseases of the female generative organs decrease in intensity after the menopause, there is a considerable proportion of cases in which the reverse happens, even to the extent of the disease becoming malignant. 3. In many instances these latter cases do not present decided local symptoms of the pathological conditions present, but are indicated by general signs, which attract attention because they occur at that particular time of life. 4. In no case of general or local disorder, just before or during the menopause, should local examination be omitted, which will frequently reveal at a glance the origin of the hitherto inexplicable phenomena, and also indicate the therapeutics. 5. Such therapeutics should be radical and effective, quite regardless of this particular time of life, the dangers of operating during which have been undoubtedly exaggerated.

FANCOURT BARNES, M.D.

ANATOMY AND HISTOLOGY.

RECENT PAPERS.

1. SCHÜLTZE, H.—On the Axis-cylinder and Ganglion: a Microscopic Research on the Structure of Nerve-fibres and Nerve-cells in the Vertebrata. (*Arch. für Anat. und Physiol.*, November, von His und Braune, Leipzig.)
2. MIKULICZ, J.—On the Individual Differences of Form of the Femur and Tibia of Man with regard to the statics of the Knee joint. (*Arch. für Anatomie und Physiologie*, November.)
3. KRIEDERMAN, A., Anat. Inst., Greifswald.—Researches on the Vagus in Man and the Dog. (*Arch. für Anat. und Phys.*, November.)
4. JÜRSEL, Professor von, in Strasburg.—Another Case of Development of the Sternalis Muscle. (*Arch. für Anat. und Phys.*)
5. OWEN, E.—The Anatomy of Genu Valgum. (*Journal of Anatomy and Physiology*. Turner-McKendrick.)
6. HUMPHRY, Prof.—The Growth of Bone from Articular Cartilages. (*Ibid.*)
7. PRITCHARD, G. U.—The Development of the Organs of Corti. (*Ibid.*)
8. LAUNGRACE, P.—Termination of the Nerves in the Muscles of the Tongue and its Mucous Membrane. (Paris: Monograph.)
9. GOWERS, W. R.—The Brain in Congenital Absence of one Hand. (*Brain*, October.)
10. EICHLER, Path. Assist., Kiel.—Case of Absence of the Corpus Callosum in the Human Brain. (*Arch. für Psychiatrie*, Band iii, Heft 2, p. 355.)
11. GARSON, J. G.—Displacement of the Bladder and Peritonæum by Distention of the Rectum. (*Edin. Med. Journ.*, October.)
12. SCHWARTZ, CH. ED.—Anatomical and Clinical Researches on the Synovial Sheaths of the Palm of the Hand. (Paris: Monograph.)
13. FRORIEF, A.—On the Sarcolemma and the Muscle Cells. (*Arch. für Anat. und Physiol.*, October.)
14. DORAN, ALBAN H. G.—Morphology of the Mammalian Ossicula Auditus. (*Transactions of the Linnean Society, Zoology*, Vol. I.)
15. SCHULTZE, HANS.—The Axis-cylinder and Ganglion Cells; a Microscopic Study of the Structure of the Nerve-fibres and Nerve-cells in the Vertebrata. (*Arch. für Anat. und Phys.*, October.)
16. FAUSCH, Prof.—The Convolutions and Gyri of the Human Cerebrum. (Monograph.)
17. RIDINGER, Prof.—On the Difference of the Cerebral Convolutions according to Sex in the Fœtus and New-born Child with reference to those born with Brachycephalia and Dolichocephalia Skulls. (Reprint from the *Beiträge zur Anthropologie und Urgeschichte Bayerns*, Vol. i.)
18. ABBY.—On the form of the Branches of the Bronchi and the Homology of the Pulmonary Lobes in Man. (*Centralbl. f. d. Medicin. Wissensch.*, 1878, p. 289.)
19. BAUMGARTEN, P.—On the so-called Semi-decussation of the Fibres of the Optic Nerve. (*Centralbl. f. d. Medicin. Wissensch.*, p. 561, 1878.)
20. BUFALINI.—Structure of the Spinal Cord of the Fœtus. (*Lo Sperimentale*, September 1878.)
21. BUDGE, A.—The Existence of Canals in Hyaline Cartilage. (*Arch. f. Mikr. Anat.*, 1st fasc., 1877.)
22. CADIAT, M.—On the Structure of the Liver of the Invertebrata. (*Soc. de Biol.*, 18th May 1878.)
23. COYNE, M. P.—Anatomy and Development of the Soft Parts of the Internal Ear. (*Thesis*, Paris, 1876.)
24. DRASCH, O.—The Existence of two sorts of Vascular Coils in the Kidneys. (*Wiener Akad. Sitzungsab.*, lxxvi, p. 69.)
25. DUVAL.—Researches on the Actual Origin of the Cranial Nerves. (*Four. de l'Anat. et de la Physiol.*, July 1878.)
26. EXNER, S.—A Sequel to the Researches on the Termination of the Olfactory Nerves. (*Sitz. d. k. Ak. de Wiss. Wien.*, lxxvi, p. 171-221, 1877.)
27. FLECHSIG.—The Internal Capsule of the Brain. (*Bericht du München. Naturf. Vers.*, p. 226, 1877.)
28. GIACOMINI, CARLO.—New process for preserving the Brain. (*Communication of the Acad. de Med.*, Turin, 1878.)
29. GOWERS, R.—On the So-called Common Nucleus of the Facial and Abducens Oculi. (*Centralbl. für die Medicin. Wissenschaft.*, p. 417, 8th June, 1878.)
30. KÜTTNER.—Researches on the Pulmonary Circulation of the Mammalia. (*Arch. für Path., Anat., et Phys.*, 2, lxxiii, p. 476.)
31. LOEWE, H.—On the Anatomical Cause of Cephalalgia Frontalis. (*Deutsch Ztsch. f. prakt. Med.*, No. 35, 1877.)
32. MEYER, P.—Histological Researches on the Membranous Labyrinth of Reptiles and Birds. (*Thesis*, Strasburg, 1876.)
33. NICATI.—Experimental Proof of the Complete Crossing of the Nerve Fibres in the Commissure of the Optic Nerve. (*Compt. rend. Acad. des Sciences*, 10th June 1877.)
34. PAULIER, M.—New Process of Preparing and Preserving the Spinal Cord. (*Bullet. de l'Ac. de Méd.*, 2nd series, t. vii, No. 43.)
35. PEREMESCHKO.—On the Division of Cells. (*Centralbl. f. die Medicin. Wissensch.*, p. 547, 1878.)
36. RANVIER, M. L.—Remarks on the Treatment of the Termination of the Nerves in the Smooth Muscle. (*Compt. rend. Acad. des Sciences*, 6th May 1878.)
37. RÉMY, CHAS.—The Mucous Membrane of the Nostrils. (*Thesis*, Paris, 1878.)
38. RÉMY, CHAS.—Histological Researches on the Normal Anatomy of the Human Skin. (*Four. de l'Anat. et de la Physiol.*, May 1878.)
39. RENANT, J.—Remarks on the General Anatomy of the Capillaries. (*Soc. de Biol.*, April 1878; and *Gaz. Med.*, p. 229.)
40. SCHÄFER, A. E.—Notes on the Structure and Development of Bony Tissue. (*Quart. Jour. of Micros. Science*, April 1878.)
41. SLAVJANSKY.—Some Data on the Development of the Graafian Vesicle during Pregnancy. (*Ann. Gynec.*, February 1878.)
42. STILLING, I.—New Point of Origin of the Optic Nerves. (*Centralbl. f. die Medicin. Wissensch.*, 1st June, 1878, p. 385.)
43. TAFANI, ALESSANDRO.—New Researches on the Structure of the Retina of Birds. (*Monograph*, Florence, 1878.)
44. TILLMANN, H.—The Fibrous Structure of Hyaline Cartilage. (*Arch. f. Mikr. Anat.*, fasc. 1, 1879.)
45. TERRILLON.—On the Cup-like Depressions on the Inferior Extremity of the Femur. (*Soc. Anat.*, Paris, February 1878.)
46. WENDT.—On the Origin of the Bile Ducts. (*Centralbl. f. Medicin. Wissensch.*, 13 April 1878.)

4. *Development of the Sternalis Muscle.*—In this paper Professor Joessel records that in a subject dissected by him he found a sternalis muscle situated on each side of the sternum, below the skin and superficial fascia. The origin of the muscles, which was the same on both sides, only that on the left side the muscular fibres extended a little higher up than on the right, was from the whole breadth of the sheath of the rectus abdominis opposite the sixth rib, from the lower portion of the sternal attachment of the pectoralis major, and also by a slip from the lower border of the eighth rib. The two muscles ran upwards and inwards, and were inserted into one common flattened tendon at the lower part of the manubrium sterni. The tendon extended vertically upwards for about 20 millimètres, when its fibres, without decussating, divided into two sets, each of which ran upwards to join the sternal head of the sterno-mastoid muscle on its own side. Transversely it measured 15 millimètres, and on each side gave off a thin tendinous expansion to the pectoralis major. Its attachments to the anterior surface of the manubrium sterni consisted only of loose connective tissue. This case, Joessel says, differs from the other cases recorded in the unusual size of muscle and in the relations it had to the sterno-mastoid and pectoralis major. Besides this abnormality, it was found that in the same subject the biceps of the right arm had a third head of origin, the palmaris longus had a muscular belly developed in its tendon, distinct from its upper one, and a portion of the omohyoid was inserted into the under surface of the clavicle.

5. *Owen on the Anatomy of Genu Valgum.*—The object of this communication is to show that the atrophy of the articular masses of bone on the outer side of the deformed knee, together with hypertrophy of the inner tuberosity of the tibia and of the internal condyle of the femur, are the direct result of slackening of the internal lateral ligament of the knee-joint. Were the deformity due primarily to the enlargement of the internal condyle, we would meet also with cases where the outer condyle was hypertrophied, and the knee displaced outwards, yet this is rarely observed. Again, if the deflection of the tibia were due to excessive growth of the internal condyle of the femur, or of the internal tuberosity of the tibia, or of both, the pressure between them would be such as to make the internal lateral ligament excessively tight, but instead of this being found in knock-kneed subjects, the reverse exists, as even when the leg is extended on the thigh there is a considerable amount of lateral movement of the joint, which does not exist in a healthy joint. In a patient whose lower extremities are too weak to support the weight of the body, either the bones will bend, as is the case in rickets, or the ligaments will yield, and knock-knee and perhaps flatfoot along with it, be produced. If the latter takes place, it will be the internal lateral ligament of the knee-joint which will give way, because the external lateral ligament receives support from the strong fascia lata of the thigh, and also from the biceps. The fascia lata of the thigh descending from the os innominata to the outer tuberosity of the tibia and head of the fibula, and containing all the fibres of the tensor fascia femoris, and two-thirds of those of the gluteus maximus, has no equivalent on the inner side of the limb, the support afforded by the sartorius and gracilis muscles being relatively small. In a marked case of knock-knee the fascia femoris may be felt running like a bow-string in

front of the tendon of the biceps. In most knock-kneed children the ligaments throughout the body are weak and lax, but as the external ligament of the knee is supported, the internal one yields. The more it yields the less becomes the pressure between the internal condyle of the femur and the tibia, so those masses of young growing bone grow without restraint, the pressure regulating their growth being removed. During this time the outer side of the joint is subjected to an increased amount of pressure, which moulds and retards the growth of the plastic masses of bone, the result being that there is atrophy of that side of the joint, and genu valgum is produced.

9. *Gower on the Brain in Congenital Absence of one Hand.*—The subject was a man whose left hand was congenitally absent. On dissecting the affected extremity it was found that the bones of the forearm were normally developed, but that at their extremity there was only an irregular mass of bone, apparently consisting of two rows of imperfectly developed carpal bones ankylosed together, except at one point. The radial third of the mass was capable of slight rotation around the long axis of the remaining two-thirds. Both pieces were connected by strong ligaments. The surface was irregularly nodulated, and covered over by a fibrous capsule, which was movable upon the bones. All the muscles of the wrist and hand were present except the extensor minimi digiti, and were inserted into the capsule with the exception of the flexor carpi ulnaris, which was inserted into a nodule on the ulnar side of the malformed carpus. The flexor carpi radialis and the extensor indicis had, however, additional insertions, the former into a nodule on the anterior surface, and the latter into the ulnar side of the posterior surface of the carpus. The nerves and vessels of the forearm were normal, only the latter did not anastomose at the wrist joint. The two hemispheres of the brain were almost similar in size. The frontal convolutions were more complicated on the right side. The central portion of the parietal convolutions, however, differed considerably on the two sides, the right being a narrow single convolution, whereas the left was broad, and depressed by a slight secondary sinus.

10. Dr. Eichler records a case of absence of the corpus callosum of the human brain. The number of cases of absence of this portion of the brain is very small, this being only about the sixteenth time it has been observed. What makes this case interesting is that notwithstanding this defect there was during life no psychical derangement.

11. *Garson on Displacement of the Bladder and Peritoneum.*—The object of this paper is to show what displacements are produced by distension of the rectum in Simon's operation of manual exploration of the abdominal cavity. For this purpose a series of experiments were made on the dead body; an indiarubber bag was introduced into the rectum and distended with water till it was the size of the circumference of a medium-sized hand, the bladder being, previous to the distension of the bag, filled with water, the bodies were then frozen and bisected vertically in the mesial line. On examining the sections it was found that in every case the bladder was entirely raised up out of the pelvic cavity. The peritoneum also was very much elevated from its ordinary position, so that in front there were from 40 to 60 millimètres of the bladder above the symphysis uncovered by it. Behind it was also found to be considerably raised; and by making some experiments on unfrozen bodies it was found that its

distance from the anus depended upon the state of distension of the rectum being greatest when that part of the gut was fully distended. The urethra was considerably elongated in its membranous and prostatic portions, the latter measuring double the ordinary length. It is this stretching of the membranous and prostatic portions of the urethra which allows the bladder to be raised so much, as the perineum is in no way displaced or altered in position. In order to ascertain whether distending the rectum in this way before performing suprapubic lithotomy would facilitate the operation and diminish the risk of injury to the peritoneum, that operation was performed on the dead subject, and it was found that when the rectum was distended the size of the hand, and the bladder distended with 200 grammes of water, there was a space of 6 centimètres of the wall of the bladder between the symphysis and the peritoneum, but on allowing the water to escape from the india-rubber bag and so emptying the rectum, the bladder sank downwards into the pelvic cavity, and the peritoneum approached the symphysis so that there was only 2.5 centimètres of bladder above the symphysis uncovered by it. The conclusions arrived at from the various experiments and dissections are: 1. That the internal orifice of the urethra remains almost unaltered in its position behind the symphysis, whether the displacements of the bladder are great or small, as they take place in a plane parallel to that of the symphysis. 2. That the position of the internal orifice of the urethra in relation to the conjugata vera alters very much and depends upon the state of distension of the urethra. 3. That raising the peritoneum above the symphysis can be produced by simple distension of the rectum as well as by distending the bladder, and that in performing the suprapubic operation for lithotomy in cases where it is not advisable to distend the bladder to a large size, by a moderate distension of bladder and rectum, or even the latter alone, the parts may be made suitable for the operation. 4. That the pouch of Douglas or the recto-vesical fold of the peritoneum is always raised by distension of the rectum. 5. That the displacements of the bladder by distension of the rectum with an India-rubber bag are not caused by raising of the perineum but by the stretching of the urethra in its so-called fixed parts. 6. That the distance of the peritoneum from the anus varies not only in different individuals but also in the same individual at different times according to the greater or less distension of the rectum.

12. *Schwartz on the Synovial Sheath of the Palm of the Hand.*—The author gives a description of the normal and abnormal arrangements of the synovial membranes of the palm of the hand which are found, especial reference being made to the communication of the internal and external palmar membranes with the sheath of the little finger and thumb respectively. The openings between the inner palmar and digital sheaths are said to be very small, situated between the two flexor tendons of the finger and partially obstructed by a semilunar fold of synovial membrane, but that between the outer palmar and digital sheaths is generally free and more direct. In five per cent. of the cases there is no communication between the palmar and digital sheaths. In 12 per cent. there is a communication between the two palmar sheaths more frequently found on the right side than on the left, but not found in children. It is probably acquired as the result of manual labour. In these cases also there may often be

found accessory bursæ. He then goes on to show the practical value of those facts, which is that inflammation of the hand may often limit diseased action. This most readily occurs in inflammation of the digital sheaths, especially at the narrow opening between the inner palmar and digital sheaths, and gives a number of cases to show how suppuration is limited by this means to the finger in some cases, or to the palm in others. Inflammation of the outer sheath generally involves the whole synovial membrane, both palmar and digital. In treating of diseases of the bones and joints of the hand following suppuration of the palmar sheaths, he shows that it is severest in the unciform os magnum and trapezium, on account of the very intimate relation of the synovial membrane with the periosteum, over those bones, while elsewhere it is surrounded by soft cellular tissue. Similarly in the fingers the sheaths are firmly adherent to the bones and loosely attached to the joints, and inflammation is readily propagated from the former but not to the latter.

13. *Froriep on the Sarcolemma and the Muscle Cells.*—The object of this research is to throw some light by the aid of histological chemistry, upon the much-disputed point of the connection of sarcolemma to tendon. It was always observed that the muscular fibres would rather tear across than separate from the tendon at their junction. To explain this circumstance two theories have been put forth; one that it is a cementing material which united the ends together so firmly; the other that the tendon is continuous with the sarcolemma, which surrounds each muscular fibre. To prove this latter theory has been considered a difficult matter; with the object of doing so Dr. Froriep brings to his assistance the use of chemistry. He argues that if it can be shown that sarcolemma gives the same characteristic reactions as connective tissue when treated with certain chemicals, then it will have been proved that the former belongs to the same group as the latter, and it will also be proved that sarcolemma and tendon are identical. If, on the other hand, sarcolemma belongs to the cell-formed tissues, and is not acted upon by reagents which coagulate albumen and connective tissue, then it will be found that it is akin to muscular tissue. Kuhne has shown that fermented pancreatic juice dissolves connective tissue, and says that it digests sarcolemma also, but Key finds that sarcolemma may be immersed from twenty-four to forty-eight hours in an alcoholic solution of Trypsine, without being digested, whereas striated muscular fibre is completely destroyed in from six to eight hours. This may be proved by anyone by putting a piece of fresh muscle into a solution of Trypsine, and allowing it to remain a few hours, when it will be found that the sarcolemma remains unaltered, but the muscular substance has been all dissolved. In his experiments, Dr. Froriep put a few sections of muscle with tendon attached in a solution of trypsin, covered it over, allowed it to stand for eight to twenty-four hours till the section became transparent. He found that it was now so delicate that the greatest care was required to keep it whole. The glass, with its contents, were immersed into a larger one with water. The section was then transferred by means of a hair pencil under water on to a microscope slide. He found that the sections would not stand mounting with glycerine, and must be kept in water, and that they would not keep longer than six to eight weeks. If the section be examined under the microscope the tendon will be seen to give out processes forming a conical cavity, into which the fibrillæ

is received. The processes are blended and continuous with the sarcolemma. The sheath of sarcolemma which alone has been left after the digestion in trypsin, may be seen to be a hollow cylinder, from the open mouth that it presents, formed of a transparent substance. This can be particularly well seen at the end of the section, where the muscular fibre has been divided. In order to confirm the truth of his observations, and to prove whether or not the sarcolemma belongs to the muscular tissue group, he proceeded to investigate what change is produced on sarcolemma by those substances which destroy the connective tissue and leave the muscles fibrillæ only. We know that connective tissue is converted into glue by boiling, and this change is hastened by the addition of a little acid. As boiling, however, renders muscular tissue brittle, he first immersed a piece of muscle with tendon attached in a mixture of alcohol and a 2½ per cent. solution of salicylic acid for some time. He then boiled it from one to two hours in a 1 per cent. solution of water and salicylic acid. After this it was found that the tissue could easily be teased out with needles, and still more easily if it is allowed to remain a few days in the cold acid solution. If the fibrillæ are now examined under the microscope, the striated substance with its nuclei can be seen, but no trace whatever of sarcolemma can be found. The nuclei are seen to be superficial to the contractile substance, and fall off on the slightest touch, owing to the absence of the sarcolemma. The fibrilla does not end in a smooth rounded extremity, filling into the conically shaped end of the tendon, but terminates in a number of roots, which project downwards into the tendon. At the root of the fibrilla there will be seen a number of nuclei grouped together, which form the border between the muscle and tendon. He concludes therefore that the sarcolemma is only an altered form of connective tissue, and that it is continuous with tendon.

J. G. GARSON, M.D.

TOXICOLOGY.

VOLZ ON POISONING BY PRUSSIC ACID AS A RESULT OF THE DECOMPOSITION OF FERRO-CYANIDE OF POTASSIUM.—Cases of poisoning by prussic acid are common enough, but it is rare to hear of an instance in which the acid has resulted from the decomposition of a ferro-cyanide within the body. One instance has been recorded by Professor Sonnenschein, in which the poison was a product of the reaction of tartaric acid on the ferrocyanide. In the following case, related by Dr. Volz of Ulm in the *Vierteljahrsschrift für gerichtliche Medicin.*, hydrochloric acid was mixed with the ferrocyanide of potassium. A merchant was found dead in his bed. On a night-table near the bed there was a bottle containing a yellow liquid, labelled hydrochloric acid, and a cup containing some drops of this liquid. As he had threatened on several occasions to destroy himself, no criminal interference was suspected. The body was examined on April 11th, about forty hours after death, under a temperature of 55° Fahr.

There was cadaveric rigidity without any sign of putrefaction. The skin was in general pale, with a slight violet discoloration at the back part of the body. On the right side under the lower lip, the skin was dry, like parchment, and of a brownish colour. The inside of the lower lip was of a bright red colour, and the epidermis separated from it on contact. The

coats of the stomach were softened, and gave way at the greater curvature on the attempt to remove the organ. It contained about two ounces of a dark brown liquid, which was collected in a glass vessel. The mucous membrane was softened and of a dark colour, but red towards the cardia. The blood-vessels were gorged with coagulated blood, black and of the consistency of pitch. The duodenum was reddened externally, and the mucous membrane was softened, with patches of redness scattered over it. The vessels were strongly injected, and there was one small ulceration in the posterior coat. The lungs were congested, and presented a number of tubercles. The heart was flabby, and contained dark fluid blood in the right ventricle, and a dark coloured clot in the left auricle. The tongue was of a brownish red colour, dry, and rough; the fauces were blanched. The lining membrane of the œsophagus was softened and easily broke down under the finger; the blood-vessels were distended with dark-coloured clotted blood. The mucous membrane of the larynx and trachea was of a bright red colour. The brain presented no particularly marked appearance; there was injection of the pia mater, with some serosity in the lateral ventricles.

The condition of the mouth, throat, larynx, œsophagus, and stomach, indicated beyond doubt the action of a mineral acid, but it was doubtful whether this was really the cause of death. There were indications of death from a more rapidly acting substance than a mineral acid. A chemical analysis showed that prussic acid was present in the contents of the stomach. This was readily obtained by distillation, and the saline residue was found to contain yellow prussiate of potash.

MACIEL ON CHRONIC POISONING WITH ARSENIC IN MEDICINAL DOSES.—The following case is reported in the *Revista Medica de Rio de Janeiro*. Dr. B., of the Province of St. Paul, in Brazil, aged about 50, of a weak constitution and subject to dyspepsia, had suffered for a long time from attacks of intermittent fever. He had taken large doses of the sulphate of quinine, but without much benefit, and he resolved to try the effects of Fowler's mineral solution, not only for the ague but for a skin-disease with which he was affected. He persisted in this treatment for *three months*, and apparently with good effects. The quantity of the medicine taken by him latterly, *i.e.*, about the 16th January 1876, was twelve drops twice daily. On the 17th January, while travelling by rail, the doctor suddenly fainted. From this he gradually recovered, and on arriving at the station he was able to get up and go and see a patient. The next day he was seen by Dr. Teixeira Maciel, who then learnt that Dr. B. was subject to fits of quotidian ague—from one of which he was then suffering—and that he had employed arsenical preparations for its treatment. He found that, at the end of the first month of this treatment, Dr. B. began to feel in his knees pains of a rheumatic nature. He said, "I have long suffered from my stomach, and only yesterday I was attacked with vomiting. In reference to my fainting in the train, it was merely a passing vertigo, of no importance. Since yesterday I have not been able to stand without perceiving this sensation. This morning, under a similar attack, I threw myself on my bed, but, by a strong effort of will, I was enabled to overcome it."

Dr. Maciel found the pulse slow (68), irregular, and intermittent, and that since the previous evening there had been no desire to pass urine. The patient

admitted that for some time past his urine had diminished in quantity, and that he had had tenesmus both of the bladder and rectum, with colic and spasms in the bowels. Dr. Maciel considered that these symptoms were indicative of an arsenical saturation of the body, and that it would be imprudent to continue this treatment with such a derangement of the stomach. Devergie advises that Fowler's arsenical solution should always be taken with great caution, and that the dose should be only very gradually increased, never exceeding sixteen drops daily. Its use should be discontinued so soon as any unusual or abnormal symptom makes its appearance—such as cramp, congestion, headache, or a sense of weight and uneasiness in the stomach. The continuance of the arsenical medicine after any of these symptoms are manifested is attended with the greatest risk. He advised Dr. B. to lay aside the solution, and resort to the use of tonics and cordials associated with diuretics. His patient was only half convinced when Dr. Maciel left him. The advice came too late. It was given at nine o'clock in the morning and an hour afterwards Dr. B. was seized with another fit of syncope, in which he died.

Dr. Maciel ascribed death to the effects of the injudicious and long-continued use of the arsenical solution. The supposed rheumatic pains in the joints were the first warning; these were followed by vomiting, tenesmus, diminution of the urinary secretion, colics, fits of coma and vertigo, all of these obvious signs of the saturation of the system with arsenic (arsenicism). Dr. Maciel makes use of this unfortunate case to advise practitioners to adopt more minute precautions in the therapeutical use of arsenical preparations. Among these he recommends by preference the arseniate of soda, which he prescribes in the form of powder, each packet containing half a milligramme (0077 grain).

Dr. Rey, in reporting this case, says that Fowler's arsenical solution, according to the foreign formulary of Laennec, contains 1 per cent of arsenious acid or 1 centigramme per gramme, and that it is always prescribed in drops. He considers this to be a dangerous proportion of arsenic, for a slight inadvertence might give rise to poisoning. Pearson's arsenical solution contains 1 centigramme of arseniate of soda in six grammes of liquid, and Boudin's solution contains 1 gramme of arsenious acid in 1,000 of liquid. These solutions are preferable to Fowler's, as the doses are more easily regulated.

[We believe with Dr. Maciel, that this was a case of chronic poisoning with arsenic, and that the symptoms described gave quite sufficient warning to withdraw the medicine. Considering the extent to which the use of Fowler's solution is carried in medical practice, cases in which injury is done by it seldom present themselves, and fatal cases are very rare. In fact there is, we believe, only one instance recorded in which this solution has destroyed life under medicinal use. This seems to furnish a sufficient answer to the objections taken by Dr. Maciel to the employment of Fowler's solution as a medicine.

Dr. B., who lost his life on this occasion, took, we are told, twelve drops of the solution twice daily. This would be equivalent to one tenth of a grain for each dose, or one fifth of a grain daily. Taken in this proportion for three months, it would amount to a total quantity of eighteen grains. These were large daily doses to be continued for so long a period, and elimination should have been very

active in order to prevent a fatal accumulation of arsenic in the system.

The facts of the case, however, show that elimination was by no means active. The urine, which is the principal medium for the elimination of arsenic, had for some time fallen off in quantity, and this indication of the action of arsenic was unheeded by Dr. B. Orfila and others have shown that in the acute form of poisoning one of the fatal indications is the suppression of urine. *A fortiori*, this failure in the action of the kidneys would have a powerful influence in chronic poisoning. Dr. B. no doubt thought that he had kept within reasonable medicinal doses; but the fifth of a grain of arsenic daily, represents, unless duly eliminated, a fatal dose in ten days. It is most probable that he did not give his mind to the subject of elimination at all, and did not connect the secondary symptoms from which he suffered with chronic poisoning by arsenic. Hence such a quantity of the poison was allowed to accumulate in the system, as to produce fatal effects through the head and the brain.

In the only instance recorded in which this solution proved fatal to life, a woman took half-an-ounce of it in five days, and died from the effects. This corresponded to two grains of arsenious acid in the whole, or two-fifths of a grain per diem, double the quantity taken daily by Dr. B. This case terminated fatally in five days, while that of Dr. B. did not prove fatal until after the lapse of twenty-three days.

There is reason to believe that in the medicinal use of these powerful agents, which fall under the class of poisons, medical men look more to the dose given at any time than to the powerful effects of accumulation as a result of imperfect elimination. There are many who consider that they are safe so long as they do not exceed a medicinal dose; but the case of Dr. B. clearly shows that this is no criterion of safety. A person may die from medicinal doses continued for too long a period, as well as from a large dose given at once.—*Rep.*]

BRAGA ON POISONING BY CANTHARIDES USED AS AN EROTIC.—This case is reported by M. Rosolino Braga from the *Revista Medica de Rio de Janeiro*. The patient suffered from nephro-cystitis with albuminuria and hæmaturia, as a result of taking cantharides. Fortunately, he recovered from the more serious effects in a few days. M. C.—, a Portuguese, aged 23, of general good health, was admitted into the hospital on the 17th January 1877. The account he gave was that on the previous night, which he had passed with a public prostitute, he had drunk a glass of wine, presented to him by the girl as a glass of white port. He observed that it was thick and turbid, but he, nevertheless, drank it. In the course of the night he had intercourse with the girl, and with unusual ardour, which surprised him. Having expressed his astonishment to his companion, she candidly informed him that, in order to excite his amorous propensities, she had put cantharides into the glass of wine which he had swallowed.

In returning home about midnight, he was seized with a strong desire to urinate. In spite of all his efforts he could pass only a few drops of scalding urine, attended with severe pain throughout the length of the urethra, especially at the meatus, where he had the sensation like that of the pricking of pins. These symptoms became worse, and they were attended with priapism and severe pain in the genito-urinary organs as well as in the lumbar

region, and with intense thirst. Under these circumstances, he came to the hospital for relief.

He was seen at 9 a.m. by Dr. Brandão. He was then much agitated, crying out and very restless. The eyes were injected and lustrous, the pupils dilated, and the countenance animated. The pulse was small and frequent. There was nausea with intense thirst. There was the most acute pain in the urethra, rendered much worse when with great difficulty some drops of urine were expelled. The desire to micturate was incessant, and an acute state of nervous erethism was then produced. Only a very small quantity of urine could be discharged; and this was thick and bloody. The abdomen was retracted and sensitive to pressure, especially in the hypogastric region, where the slightest touch produced acute pain. Pain also was felt in the lumbar region, owing to the kidneys being affected, and this pain extended downwards to the perinæum. The catheter brought away a small quantity of thick bloody urine containing albumen in marked proportion.

In the treatment, hypodermic injections, mild enemata, leeches, and poultices, were employed, with bromide of potassium internally. These remedies produced a rapid amendment in the symptoms. On the third day urine was passed naturally, and it contained no albumen. The patient left the hospital cured.

It was not possible to discover what preparation of cantharides had been taken by this man, nor the quantity in which it had been administered to him. Dr. Braga thought that the powder had been used in rather large proportion; this is extremely probable, from the description given by the patient of the appearance of the wine. [We agree with the reporter of this case, that the only objectionable part of the treatment was the employment of the catheter to the irritated and inflamed urethra.—*Rep.*]

BELLINI ON IODIDE OF STARCH AS AN ANTIDOTE TO VARIOUS POISONS.—In a paper read before the Medical Society of Florence, Dr. Bellini recommends the iodide of starch as an antidote to poisons generally. This compound is free from any disagreeable taste, and has not the irritating properties of iodine. Hence he finds that it may be easily administered to patients in large doses. Bellini states as a result of numerous experiments, that at the temperature of the stomach, and in the presence of the gastric juice, the iodide combines with a great number of poisons, forming with some of them insoluble compounds, and with others soluble compounds which are innocuous so long as they are not in too large a quantity. This antidote may be safely employed in all cases in which the nature of the poison is unknown. It will be found most efficient in cases of poisoning by sulphuretted hydrogen gas; by the alkaloids and alkaline sulphides; by caustic alkalies; by ammonia; and especially by those alkaloids with which iodine forms very insoluble compounds. It is preferable in this respect to the ioduretted tincture of iodine. In reference to salts of lead and mercury, it aids the elimination of the poison. In cases of acute poisoning, an emetic should be used soon after its administration.

ALFRED S. TAYLOR, M.D.

REVIEWS.

The Journal of Physiology.—Edited, with the co-operation in England of Professors GAMGEE, RUTHERFORD, and SANDERSON; and in America of Professors H. P. BOWDITCH, H. N. MARTIN, and H. C. WOOD, by MICHAEL FOSTER, M.D., F.R.S. Vol. i, Parts IV and V. London: Macmillan and Co., 1878.

The first paper in this part is by Dr. Sidney Ringer and Mr. Murrell upon the action of Arseniate of Soda and Arsenious Acids on Frogs. After mechanical arrest of the circulation by ligature or excision of the heart, arsenic is found to paralyse first sensation and reflex action, and some time afterwards voluntary power. The paralysis is due to the poisonous action of the arsenic on the nitrogenous tissues, whose functions it thus destroys; and not to its causing its arrest of the heart's action, and so depriving them of their blood-supply. From certain experiments which the authors performed, and which are described in detail, they were led to the conclusion that arsenic acts directly upon the central nervous system in causing general paralysis; that it has a powerful influence in destroying the vitality of both muscles and nerves, and that it affects the nerves more rapidly than the muscles. After the injection of arsenious acid in minute doses, it was found that desquamation occurred.

Another paper is also contributed by the same authors, concerning the action of Aconitia on the Nervous and Muscular Systems of Frogs. From experiments, the authors are led to believe that aconitia is a protoplasmic poison. The frogs became paralysed, and a profuse frothing occurred; the paralysis extended to the nervous centres, motor and sensory nerves, muscles, and probably to all the nitrogenous tissues. Aconitia has a special action upon the heart, since it paralyzes all the nervous and muscular structures with which that organ is connected.

A third paper is also due to Dr. Ringer and Mr. Murrell, on the action of Tartar Emetic, Hydrocyanic Acid, and Veratria on the Animal Body. The experiments, of which an account is given, were undertaken to ascertain whether all poisons were protoplasmic poisons acting under different conditions, and in somewhat different directions. They find that tartar emetic paralyzes the central nervous system, the motor nerves, and the muscles; it also abolishes sensation; it may therefore be regarded as a protoplasmic poison, destroying function in all nitrogenous tissues. Tartar emetic reduces the cuticle to a jelly-like condition. Hydrocyanic acid is a powerful protoplasmic poison, as is also veratria; veratria poisons voluntary muscles, the heart-muscle, the motor and sensory nerves, and possibly, to a slight degree, the central nervous system: it has a special action on muscle.

Miss Nunn contributes a paper upon the Structural Changes in the Epidermis of the Frog, brought about by Poisoning with Arsenic and with Antimony. This investigation was carried out to supplement the results obtained by Dr. Ringer and Mr. Murrell, already mentioned. Miss Nunn finds that the desquamation of the cuticle in frogs, after poisoning by arsenic, is due to changes brought about by the arsenic acting directly upon the cells of the epidermis themselves. The changes are probably in the direction of excessive stimulation of the cells, which is

carried to such an extent [that the destructive stages of the metabolism outrun the reparative power of the constructive stages. The action of antimony upon the cuticle is more marked and more violent than the action of arsenic, and its effects are somewhat different. The action of these two poisons upon the epithelium of the cornea is similar to, but less marked than, their action upon the epidermis; that is to say, the bases of the cells of the columnar layer become softened, and cease to cohere with the dermis, whilst all the cells of the epithelium become loosened and separated. The nuclei in the columnar and overlying layers become irregular in shape, whilst a space is developed immediately surrounding each. Miss Nunn believes that these changes support the theory that arsenic is a protoplasmic poison.

Mr. Dowdeswell, investigating the Structural Changes which are produced in the Liver under the influence of the Salts of Vanadium, finds that the organ becomes paler, due to the diminution of the liver-pigment, soft, and of reduced specific gravity. The lobules in the carnivora are obscured; the hepatic cells become coarsely granular, and their nuclei and nucleoli disappear; at the same time the boundaries of the cells are rendered so indistinct that they appear as if fused together. The intra-lobular veins appear augmented in size; in many cases they were greatly congested. The experiments were made upon cats, guinea-pigs, and rabbits.

Mr. Gaskell, continuing his researches on the Vaso-motor Nerves of ordinary Muscles, discusses first the rate of blood-flow through muscle, and then proceeds to compare the results which he has obtained with those previously announced by Heidenhain. The experiments were made upon dogs. Mr. Gaskell finds that section of the muscle-nerve causes great increase in the rate of blood-flow through the muscle, the increased flow entirely disappearing in from two to four minutes after section. Section of the abdominal sympathetic trunk causes a temporary increase of flow from the extensor vein; stimulation of the peripheral end of the muscle-nerve causes an increase of blood-flow through the muscle, since dilatator fibres are stimulated, and this increase is absent in the case of thoroughly curarised animals; constrictor fibres are also present in the muscle-nerve. Stimulation of an afferent or sensory nerve causes dilatation of the muscle-vessels, when the stimulation causes an actual or potential contraction of the muscle. By potential is understood that the muscle would have contracted, had the animal not been under the influence of curara.

The paper of Mr. Walter on the Function of the Epiglottis in Deglutition and Phonation is intended to show that the epiglottis is not essential to the deglutition even of liquids, whilst it is an important agent in the modification of the voice. To prove the first of these points, which is opposed to the general opinion of the majority of physiologists, Mr. Walton has excised the epiglottides from several animals, and has come to the conclusion that the epiglottis is not essential to deglutition in dogs and cats; the pathological evidence is also discussed with a similar result.

Mr. Sewall, working with the embryos of sheep, has studied the development and regeneration of the Gastric Glandular Epithelium during foetal life and after birth. He finds that the originally single layer of hypoblast-cells becomes several layers thick; that these ridge-like outgrowths—the rudiments of the glands—are formed on the surface of the mucous

membrane, the ridges being supported by mesoblastic outgrowths, which form a central slender core from which branches penetrate between the epithelial cells. These cells again form a single layer over the ridge. By the intersection of the ridges, pits are left which are the common vestibules of several glands. The ovoid cells (or *Belegzellen*) are first specialised; they are found in the embryo in the pyloric region. The chief cells (*Hauptzellen*) are not specialised till a much later period. The proteolytic and milk-curdling ferments are present before birth. The *hauptzellen* are probably also concerned in the formation of pepsinogen. The formation of pepsinogen and free acids are not parts of one and the same metabolism. The cells of the mesoderm are probably the progenitors of all the cells in the gastric glands, except those first formed in the embryo. They give rise to *belegzellen*, which in turn by fission, and perhaps by direct metamorphosis, form *hauptzellen*.

A paper by Dr. Stirling and Mr. Murrell on the Epithelium of the Cornea calls attention to a highly refractive clear narrow band, which is attached to the base of each cell of the lower layer of cells in the anterior surface of the cornea. This stripe has nothing to do with the anterior lamina. They have also isolated, observed, and figured the digitate cells described by Cleland in 1867, the existence of which was subsequently denied by Rollett.

Mr. Langley continues his interesting investigations in regard to the Physiology of the Salivary Secretion. In the present paper, he considers the antagonism of atropin and pilocarpin in reference to their action upon the submaxillary gland of the cat. The conclusion at which Mr. Langley arrives, is that pilocarpin, in proportion to the quantity given, paralyses both the chorda tympani and the sympathetic secretory fibres. The diminution of the pilocarpin secretion, caused by stimulating the sympathetic, is a direct effect of the diminished blood-supply, and is not due to the influence of nerve-fibres inhibitory to the secretion. The slight increase of saliva obtained by stimulating the chorda after a large dose of pilocarpin, is due to the action not of its secretory, but of its vaso-dilatator fibres. In regard to the secretion of the gland, atropin and pilocarpin have an imperfect mutual antagonism; with regard to the secretory nerve-fibres there is but an imperfect one-sided antagonism, viz., that of pilocarpin for atropin. Stimulation, either of the chorda tympani or sympathetic, which causes a secretion, but more especially of the sympathetic, brings about the atropin paralysis of these nerves with the greater readiness.

Drs. Newell Martin and Booker experiment upon the influence of Stimulation of the Mid-brain upon the Respiratory Rhythm of the Mammal, using for this purpose rabbits under the influence of ether. The stimulation was by means of the interrupted current. The conclusion arrived at is that beneath the posterior corpora quadrigemina is a centre regulating respiration; it is situated close to the iter, and is similar to that in the corpora bigemina of the frog. Stimulation of this centre causes accelerated inspirations, which finally pass into tetanic fixation of the chest in an inspiratory condition; it correspondingly diminishes or altogether inhibits expiration. It is noticeable that extremely feeble currents give exceedingly characteristic results. Identical results were obtained from experiments upon a cat.

Dr. Ringer and Mr. Murrell, having obtained some Pituri twigs and leaves, proceeded to make an extract of them. Injecting this extract into cats, they find that pituri is a slight narcotic; that it at first

salivates and then dries the mouth; that it dilates the pupil when administered internally or applied topically to the eye; that it is a powerful respiratory poison; that it produces general weakness; that it causes violent twitchings of the whole body. Pituri is a drug probably derived from *Duboisia Hopwoodii*; it is used by the natives of New South Wales in like manner as the betel in the East.

Professors Kronecker and Stirling contribute an exceedingly important paper on the Genesis of Tetanus. They find that the soleus muscle of a rabbit's leg, taken as a typical red muscle, is thrown into an incomplete tetanus by four stimuli per second, and by ten stimuli per second into a tolerably complete tetanus. The gastrocnemius medialis, on the other hand, being taken as an example of a pale muscle, requires 20 to 30 stimuli per second to be completely tetanised, whilst six induction shocks per second prevent it from becoming completely extended during the period of stimulation. Muscles which have been stimulated whilst in an advanced stage of relaxation do not follow the law of Helmholtz, by becoming added to the remainder of the contraction, but produce a new maximum, which is the same or lower than the preceding one. The authors then proceed to investigate whether the tetanus of a muscle ceases when the muscular vibrations cease to be observable. The theories of previous experimentalists upon this subject are carefully discussed, and it is then affirmed that the oscillatory condition is a characteristic point between tetanus and a simple contraction. In relation to the upper limit of the frequency of stimulation which is capable of producing tetanus, the authors believe that it is reached when the variations in the current cease to be detected with physical rheoscopes, although it has been shown that muscles reply to stimuli which reach their maximum in a nerve in less than 0.00005 second.

The last paper in this part of the *Journal of Physiology* is by Professors Kronecker and Stirling. It takes the form of a postscript to the preceding contribution, and deals with the so-called initial contraction whose existence is accepted by Bernstein, but is doubted by the authors. D'ARCY POWER.

The Value of Absent "Tendon-Reflex" as a Diagnostic Sign in Locomotor Ataxia, with an Analysis of Eight Cases. By ALLEN McLANE HAMILTON, M.D. New York. From the *Boston Medical and Surgical Journal*, Dec. 19th, 1878.)

The object of the author of this paper has been to test the accuracy of the statement made more especially by Westphal and Erb, that the phenomenon of tendon-reflex is an important and characteristic symptom of locomotor ataxia. In health, if the ligamentum patella or tendo-achillis of the loosely-hanging leg be struck a smart blow with, for example, the side of the hand, a more or less violent kick will follow, or in the latter case the heel will be raised. In sclerosis of the lateral column, these natural reflex acts are increased in intensity, but in locomotor ataxia they are diminished or entirely destroyed. Dr. Hamilton gives brief notes of eight cases, of what are undoubted cases of locomotor ataxia, and all in stages more or less advanced. In four of them, there was complete absence of tendon-reflex. In the other four, there was no diminution of this phenomenon; on the contrary, in one it was "well marked", in two it was "increased", and in one "increased to marked degree". The author concludes by saying, "It would seem, therefore,

as if the absence of patellar tendon-reflex were not so valuable a diagnostic sign as it has been said to be in the disease under consideration; but there can be no doubt of the fact, that when its absence is coupled with the so-called "lightning pains", plantar anæsthesia, and dimness of vision, there is reason for apprehension." A. HUGHES BENNETT, M.D.

A Handbook of Surgical Pathology, for the use of Students in the Museum of St. Bartholomew's Hospital. By W. J. WALSHAM, M.B., F.R.C.S. London: Henry Kimpton. 1878.

The work before us offers nothing new in the way of arrangement of material, the plan followed being that generally in use in teaching the subject of surgical pathology. The diseases and injuries of bones and joints occupy the first four chapters. Then in chapter v, those of the muscles, tendons, etc. The following three are devoted to the nervous system and its coverings; and after these the organs of circulation are dealt with. In chapter xi, the injuries and diseases of the respiratory tract are considered; and in xii, those of the digestive; xiii treating of the genito-urinary organs. The last chapter, xiv, deals with the diseases of the breast.

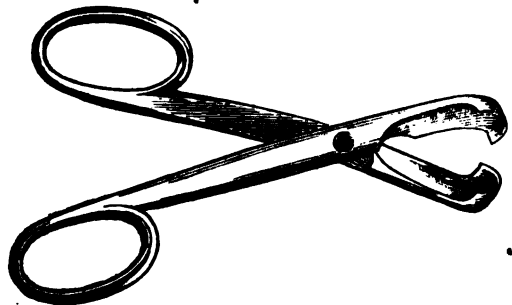
Each of these chapters is divided into several sections, all of which may be said to be prefaced by an introductory and explanatory paragraph, containing generally the most modern views on the point in question, and ending by a brief description of several preparations from the museum illustrating these. The specimens alluded to are numbered according to the catalogue of the museum.

The matter is well handled, and the classification is not merely based upon pathological theory, but is also arranged clinically in many cases. We are surprised to observe that the terms "true" and "false", as applied to aneurism, are employed in a different sense to that usually given to them at the present day. ARTHUR E. BARKER.

NEW INVENTIONS.

THE EXCISOR, INVENTED BY DR. UBBO RICHTER OF EMDEN (NORTH GERMANY).

This instrument has been constructed with the view of enabling the surgeon to remove small pieces of a diseased vaginal portion of the uterus, in order



to submit them to a microscopical examination, and so make a diagnosis of the actual disease before proceeding to any capital operation. Its use is very

simple, the speculum being held with one hand, and the excisor introduced through it. Any portion may be easily cut out quickly and securely, and should hæmorrhage occur it can be easily stopped.

MISCELLANY.

It is said that mosquitos will not infest a room in which the eucalyptus plant is kept.

THE CHEWSTICK.—This is the name given to the *gonasica domingensis*, a Jamaica climbing plant, which is used as a tooth-brush. Sticks of convenient size and length are chewed at one end, when the fibres separate, making a serviceable substitute for the manufactured brush. In Kentucky, the dogwood and the althea are used for this purpose when other tooth-brushes cannot be gotten; at least, many of us did so during the late war.

THE LARGEST TREE IN THE WORLD.—Albreda is a little place situated on the right border of the river Gambia in Africa. It is remarkable for a monstrous fig-tree growing there, in comparison with which all the other giants of the vegetable world dwindle into nothing. This fig-tree belongs to the family of the common ferns, which grow in Europe and Asia Minor. It is 45 feet high, and its circumference is 120 feet. The trunk of this tree looks as if it were composed of the union of several trees. The thick branches form a sort of roof 210 feet in circumference, which the rays of the sun cannot pierce, and under it the natives assemble daily to work and play. Everything seems to go on under this tree—it is at once the club, school, coffee-house, police-court, and tribunal of the place. The whole population take shelter here from the burning heat of the sun, and give to an observer a good opportunity of studying the customs of the country. Two games which belong to very ancient times are particularly popular; the one is played with small pieces of bone or discs, which are thrown upwards and caught on the back of the hand. Before throwing, every partner in the game addresses a short prayer to the divinity of the tree. The other game is the game of the goose, which is played with dice on a board which is covered with rudely painted figures.

THE EMOTIONS OF THE CUTTLE-FISH.—M. Frédéricq, who has studied very carefully these interesting animals, has discovered the following particulars regarding their sensibility. The change of colour in the skin of the cuttle-fish is the expression of divers emotions, especially of fear and anger. If the animal is being irritated, its skin assumes a dark hue preceded by a coloration of the pupil. If the nerve which proceeds to the muscles of the chromatophores is divided, the muscles contract, and the skin becomes colourless; if the same nerve is stimulated, the contrary effect occurs. The nerve-centre of the nerves which go to the muscles of the chromatophores is located in the sub-oesophageal group of nerves. All these muscles may be stimulated directly without the intervention of the nerves. If the latter have been divided, and the skin is stimulated by electricity, heat, acids, etc., a black spot will presently appear on it. A bright light makes the skin grow pale.

A NEW HAIR RESTORER.—We find in the *Berl. Klin. Woch.* for January 27 the following extraordinary statement. An old gentleman had been operated upon for cataract on both eyes by the author. He was almost entirely bald. As a thick membrane had formed on the pupils, he had pilocarpine mur injected hypodermically thrice within a fortnight. The treatment proved successful, not only for the eyes, but also for the hair, which suddenly began to grow rapidly. A few weeks later, the author had to treat another patient with pilocarpine, who also had a bald patch. After two or three injections, the patch was covered with young hairs, which grew rapidly. No further experiments have as yet been made on the subject. If, however, this drug should prove a successful hair-restorer, what a boon to mankind is here discovered!

FLYING FISH.—Many authors have explained the power of flying possessed by some fishes by asserting that their pectoral fins act in the same way as do the wings of birds, bats, and insects. According to M. Moebius, who has studied the structure of these fishes, the anatomical structure of the pectoral fins and their muscles, as well as the physiological relations which exist between the insertion and size of the fins compared with the volume and weight of the whole body, make it impossible for the fins to perform the function of wings in flying. The movements which they sometimes make in flying are simply vibrations. The real cause of the aerial movements of these fish is a very strong jerking forward of the body produced by the lateral muscles of the trunk, and which is effected in exactly the same way in which other fish propel themselves forward in the water. They jump out of the water with greater rapidity, because air offers less resistance than water, and they fall back into the latter after a certain time, the extended pectoral fins serving as parachutes. It is clear that the force of the wind may either quicken their movements by propelling them onward, or keep them back. In daytime they jump so as not to come into contact with ships, but by night, when they cannot see well, they fall on them. Every strong current of air on meeting with an obstacle in its way, rises against it; in this case the obstacles being ships or waves, the current of air in rising lifts the fish at the same time, throwing them across the waves or ship. In short, M. Moebius proves how all these phenomena may very well be explained by the combined action of the wind and oblique propulsion. Flying fish are also so constructed as to be able during their flight to carry a small quantity of water in their mouths in order to enable them to keep up respiration.

A FEMALE PHYSICIAN.—The *New York Medical Record* reports the death from consumption of Dr. Emmeline St. Cleveland, of Philadelphia. She appears to have held a respected position, and to have passed a career of twenty years of great usefulness in organising a flourishing Maternity Hospital, and training school for nurses, and in large private practice. She graduated in 1857, and passed a year in the Maternity Hospital of Paris. In Philadelphia she held a Chair of Anatomy, and subsequently of Obstetrics and Diseases of Women and Children. She leaves a husband and child to deplore her loss.

LEPROSY IN NORWAY.—In an interesting account of his visit to Norway, 1877, Dr. Rabe (*Archiv für Hekund*, June 1878) makes an extended report upon the present condition of the disease. In 1856 the number of lepers was 2847; in 1861, 2096, of which 709 lived in the asylums; in 1870, 2055; and in 1876 the number was reduced to 1800, of which 810 were in hospital. The number of lazarettos is six, and all possible means are employed by the Government to alleviate the sufferings of the lepers. District physicians are appointed, who make a report twice a year upon their condition all over the country. He found but one of the latter who believed in the contagiousness of the disease, and he maintained that the period of incubation was very long.

CHLORAL-HYDRATE.—Dr. Dixon, Springfield, Ills., reports, in the *Medical and Surgical Reporter*, a case of delirium tremens, in which the patient took 240 grains of hydrate of chloral in three and a half hours, with the most satisfactory results.—Dr. Carroll, U.S.A., also reports, in the *Philadelphia Medical Times*, the death of a patient who took, with suicidal intent, 480 grains of chloral-hydrate.

THE POISON OF SERPENTS.—M. Lacerda, in the *Gaz. Hebdomad. de Mtd. et de Chir.*, No. 2, states that he has made several observations which prove that the poison of serpents contains a figurate ferment, which presents a very striking analogy with bacteria. The spores of this poison multiply principally in two ways; either by scission or germination. According to him, the best antidote for this ferment is alcohol, either injected under the skin or taken by the mouth.

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The London Medical Record.

FRANCK ON THE PROPAGATION OF NERVOUS IMPRESSIONS.*

THE recent researches made by M. Chauveau on the propagation of nervous impressions have drawn the attention of the medical profession to this interesting branch of experimental physiology. It will, therefore, perhaps, not be considered useless to publish a few general remarks on the rapidity with which the nervous impression is propagated along the motor and sensory nerves, and how the central reflex and intellectual nervous acts are effected. It is not the author's intention to give an elaborate and minute description of the proceedings by which this calculation has been carried out; but in order to enable the reader to follow him in his researches he simply gives a brief sketch of the method employed by him, omitting all unnecessary scientific details.

1. *Calculation of the Rapidity with which the Impulse is Propagated through the Motor Nerves.*—If an impulse is communicated to a healthy motor nerve by the nervous centre from which it originates, it will cause the muscle innervated by this nerve to contract. In experimenting, however, we are obliged to substitute an artificial stimulus for the physiological one. These stimuli have mostly been supplied by electricity. If a faradic or galvanic shock be applied to the nerve, the impulse received will travel along it towards the muscle, causing the latter to contract. What we want to know is the exact amount of time which has elapsed between the application of the stimulus and the contraction of the muscle, or in other words, the rapidity with which the impulse is propagated in the nerve.

This seems a very easy calculation to make, if the moment of the stimulation as well as of the contraction are given, all we have to do is to calculate the time that has elapsed between these two moments. We might therefore, after ascertaining it, say the impulse travels so many metres a second over a motor nerve. In reality, however, there is always an error in these calculations, which is due to having entirely overlooked the time which it takes to make the muscle contract. This has been called the "time lost by the muscle"; it cannot, therefore, enter into the computation, but must be carefully calculated and then subtracted from the total duration of the proceedings.

We shall now give a short sketch of the method by which this result has been achieved, so as to make the latter more easily understood by our readers.

We want to know the exact amount of time which it will take an electric stimulus applied to the ischiatic nerve near its root to travel along the nerve and cause the muscle, e.g., the gastrocnemius to contract. For this purpose we divide the above nerve as near its origin as possible, so as to allow a considerable length to that portion of it which innervates the muscle. Near the point of division both electrodes of an induction coil are applied to the nerve (fig. 1). This is the impulse. An electro-magnetic pointer which has been inserted within the coil registers the

moment of the impulse, on a cylinder covered with blackened paper which slowly rotates in front of the needle.



Fig. 1.—N is the nerve to the points 1 and 2, of which the stimulus is applied in two successive experiments. M is the muscle which signals contraction.

The tendon of the gastrocnemius muscle is fastened to the base of a lever, which is also in connection with the registering apparatus. The moment the muscle has been reached by the impulse it contracts, thereby causing the lever to describe a curve on the cylinder. The interval between the two lines or marks of stimulation and contraction represents graphically the time which it took the electric shock to travel along the nerve, and contract the muscle (fig. 2).



Fig. 2.—M, curve of the movement caused by stimulating the nerve at 1, T, interval which elapsed between the stimulus S, and the appearance of the movement M. This delay, R, is here equal to 1/100 of a second.



Fig. 3.—Time lost by muscle M, stimulated at the point 1. This delay (R, line T) equals 1/100 of a second.

But as we wanted to know the rapidity with which the impression is propagated in the nerve alone minus the muscle, we must subtract from the above-mentioned computation the "time lost by the muscle". We therefore repeat our experiment, but instead of stimulating the nerve near its origin, we apply the stimulus either to the muscle (2, fig. 1) or to that portion of the nerve which immediately passes into it.

The interval between stimulation and contraction corresponds to the time "lost by the muscle". If we set it down (R, fig. 3) as equal to the hundredth part

H

* *Gaz. Hebdomadaire*, December 1878.

of a second, the time total being equal to $\frac{1}{100}$ of a second, we find that the time required for the propagation of impression on the given space of nerve between the stimulated point and the muscle equals $\frac{1}{100}$ of a second.

It is easy to calculate in this way the rapidity with which the impulse is propagated along the nerve in the second. Although there exists a certain difference of opinion on this point among different investigators, still the rapidity of 30 mètres a second has been universally accepted as the standard number. The method described is one which has been adopted by M. Marey; it is more perfect than that which was adopted for a long time after. Helmholtz had been the first to study this question, but still it was far from perfect, as was afterwards shown by Professor Chauveau's investigations. He was the first to prove that the rapidity of 30 mètres a second in motor nerves was not to be considered as being uniformly the same for every part of a nerve, or for different motor nerves. The celerity is at its highest point in the superior points of a nerve, but gradually decreases from the origin to the end. 30 mètres a second is too low a rate for the nerves of mammalia under physiological conditions, the mean rapidity of propagation being 65 mètres a second. M. Chauveau gives a very minute and detailed description of the way in which he conducted his experiments, for which we must refer our readers to the numbers of the *Gazette* which were issued on August 16th and 30th. It will be sufficient to repeat here that the experiments were made on a piece of nerve measuring more than a metre and a half in length, which consisted of the loop formed in solipedes by the parallel branches of the pneumogastric and recurrent nerves. The stimuli were applied at given intervals on the nerve, and the impulses which were produced successively caused contractions of the constrictor muscles of the larynx.

The impulse was propagated alternately from the top to the bottom, and from the bottom to the top, in order to verify the experiment, giving every time the same results. In this way M. Chauveau has succeeded in adding very important details to the question, and in rectifying several existing errors. By other experiments on the nerves of the œsophagus, he has shown that the rapidity with which the impulse is propagated in the motor nerves of those striated muscles which are not under the control of the will, is eight times less than in ordinary motor nerves.

We see from the above that the question of the rapidity with which impulses are propagated in the motor nerves is much more complicated than might have been concluded from the experiments which have been hitherto performed on the ischiatic nerve, and almost always on the ischiatic nerve of the frog. The mean amount of this rapidity of transmission is 65 mètres to a second in the motor nerves of the voluntary muscles; it diminishes downwards from the origin to the end of the nerve; it varies according to physiological conditions existing in the same nervous cords, and is greater in vigorous animals which belong to a higher race. It is not intended to discuss here the propagation of the impulse in motor nerves which belong to the sympathetic system, and go to the blood vessels or other organs with unstriated fibres; there have hardly been any experiments made on the subject, the results of those which have been made will be published in a special article; for the present it will be sufficient to say that the method by which these experiments have to be conducted

must be very like that one described under the head of general proceedings. The only difference will consist in the calculation of the results; which will consist in the constriction of the vessels or other organs. The vascular constriction is measured by inserting a manometer into the peripheric end of the arteries; but the same result might be obtained by plunging the extremity of some member into a registering apparatus, which shows the slightest change wrought in the mass of blood contained in the vessels of the body.

II. *Duration of Reflex Acts.*—If the spinal column of an animal be divided, all voluntary reaction will cease; however, if the central end of the posterior root be stimulated, we see a reflex movement in the muscles which are innervated by the anterior root, both roots forming a sensory motor arch. This is the pure type of the simple reflex movement, which is called forth by a feeble stimulation, and caused only by those portions of the spinal cord which are situated on the same side and the same transverse section of the medulla. If we intend to calculate the rapidity with which this reflex action takes place, we only need to repeat our former experiments; but at the same time apply the stimulation to the posterior root S (fig. 4), as near the spinal cord as

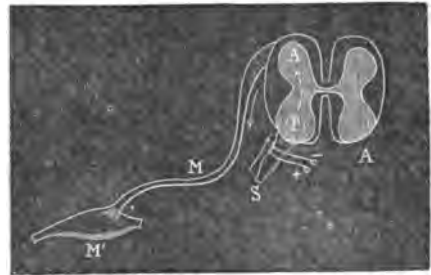


Fig. 4.—Diagram of the experiment for ascertaining the rapidity of the unilateral reflex act.

possible. In this way we shall avoid making a mistake in our calculation, which otherwise must inevitably happen, seeing that we have to deal with an unknown element, viz., the rapidity of propagation in a given length of sensory nerve. The entire duration of the phenomenon will be determined as above by the curve between the point M', which is the moment of contraction, and the point S, or the place where the stimulus has been applied to the other end of the motor nerve M. As before, however, we again meet with a certain delay, and we must therefore calculate how much of it belongs to the spinal end, i.e., to the sensory motor arch of the grey substance (P A). This being the object we especially have in view, we must eliminate whatever portion of the delay would belong to the motor nerve M, and to the muscle M'. This is easily done—all we have to do is to calculate the time which it would take a stimulation which is applied to the origin of the motor nerve M to travel down the nerve till it reaches the muscle, and causes the latter to contract. If we subtract from the duration of the entire act all that belongs to centrifugal transmission, we shall have determined the exact value of the delay which has occurred in the cord, and in the arch P A of the grey matter. From this experiment we gather the interesting fact that the cord has the property of delaying the progress of stimulations. This is called the resistance of the cord. If the reflex action be unilateral, we call it the lateral resistance.

We will now examine what is called a crossed reflex action, *i.e.*, if a posterior root (fig. 5) which



Fig. 5.—Diagram of the experiment for ascertaining the rapidity of the crossed reflex act (transverse resistance of the cord).

originates on one side of the cord is stimulated, the reflex movement will be seen in the muscle M, which is innervated by the corresponding anterior root of the opposed side. Here the stimulus applied to S will have to overcome what is called the transverse resistance of the cord, travelling down the ideal line P A. We can determine the value of this transverse resistance of the cord by the same proceedings by which we learned the value of the resistance of the cord, *i.e.*, in subtracting from the total duration of the phenomenon the time which the impulse required to travel down the length of the motor nerve M, and to cause the muscle M' to contract. The value of this transverse resistance has been found to be about twelve times as much as the resistance in the motor nerves would be.

It has been clearly shown in the above description that the proceedings for calculating the duration of the reflex act, whether it be unilateral or crossed, are almost entirely the same for both acts.

In summing up the results of these and similar observations, we come to the conclusion that nerve impulses undergo a comparatively considerable delay in the grey matter of the nerve centres, and that this faculty of arresting the progress of impulse may prove very useful in trying to ascertain what may be considered as really the central portions of the nervous system. To this fact both M. Pitres and myself are indebted for the conclusions which we were enabled to draw from our experiments on the duration of the delay which was caused in the motor zone of the brain by the cortical layer of grey matter.

III. The Rapidity with which the Impulse is propagated through the Sensory Nerves of Animals.—

The propagation of impulse through the sensory nerves of animals will form our next subject. It must be borne in mind that we cannot study it in man without having made ourselves thoroughly acquainted with the duration of elementary intellectual acts. It will be easily understood that it is possible in animals to determine the rapidity with which the impulse travels down the sensory nerves from the duration of the reflex acts. In fact, if after having stimulated as above the sensory nerve in the vicinity of the cord we repeat the stimulation, applying it, however, at the greatest possible distance from the first point; to the total duration of the reflex act, will be added the time during which the impulse travelled along the whole length of the sensory nerve. This increase of time is equal to the exact value of the rapidity of propagation in a given length of a centripetal nerve, and we may from it calculate the above at so much a second. This experiment is much less complicated than the one by which the duration of the reflex act only was ascer-

tained. The method which we adopt in regard to performing it has been described by M. Marey in his book on *Movement in Vital Functions*.

The central end of the sciatic nerve (point 1, fig. 6) is stimulated at as great a distance as possible



Fig. 6.—Diagram of experiment for calculating the rapidity of transmission in the sensitive nerves of animals.

from the centre, in an animal in which reaction shows itself by reflex movements, *e.g.*, a few hours after the section of the cord. The movement will appear at a stated time, after the application of the stimulant. This time is represented by the letter A. If the stimulus is applied to the same nerve, but as near the centre as possible (point 2, fig. 6), the reflex movement will follow much sooner. We will call this new delay, which is shorter than the preceding, A'. Now the difference between A and A' can only be attributed to the duration of the transmission through the piece of nerve which is comprised between point 1, which was stimulated first, and point 2, which was stimulated afterwards; from this we deduct in the same way as we did for the motor nerve, the rapidity of propagation in the sensory cord. This celerity, which is necessarily subject to some modifications on which we cannot dwell here, has been found by M. Marey and other physiologists to be greater than the rapidity of propagation in the motor nerves. This subject has been studied in man in a similar way by almost all the physiologists, only, instead of the reflex movement caused by the irritation, a certain signal was given by the person on whom the experiment was performed, at the exact moment when the effect of the stimulation was felt. We shall presently see that the duration of an intellectual operation varies very much in different subjects, and even in the same subject, as it depends upon a great number of unforeseen circumstances. Great care must, therefore, be used in admitting results of experiments which are subject to so many errors.

IV. Duration of Psychological Acts.—Donders was the first who studied carefully the comparative duration of intellectual acts, which varies according to their

being more or less complicated. A great many students before him had attempted to solve the problem, but under comparatively easy conditions. Since Maskelyne had published his observations towards the end of the last century, it was well known among astronomers that in ascertaining the precise moment at which a star appeared within the focus of the telescope, the observers invariably made a mistake in their calculation. This error arose from their not being able to perceive the star until some time after it had actually passed into the focus. This delay has been found to be invariably the same in the same individuals, but to differ according to the objects perceived. It is called the "personal equation", and has been calculated by different processes, the most simple of which is Wolff's. The observer gives an electric signal the moment he sees a luminous point representing a star pass before the focus of the telescope; this point is so constructed as to give also an electric signal at the precise moment when it really comes within the focus, the difference between the two signals being equal to the delay or personal equation. Donders in his researches from 1865 to 1869 proceeded to solve more intricate problems; he has compared the time which is required by different individuals to accomplish complicated intellectual operations, and he has found that it increases in direct proportion to the greater amount of exertion required by the brain for the work, *e.g.*, the observer is requested to give a certain signal the moment he sees a light which is suddenly projected on him; this signal, however, does not coincide with the real apparition of the light, but is made about one-tenth of a second later. This is Wolff's experiment. If, however, the same individual has to utter a judgment on a certain point before giving the signal, if he has to distinguish between the colour and the luminous point, and give a signal with his right hand when he perceives that the point in question is red, and with his left hand when it is blue, the delay is much more considerable. This difference must be attributed to the longer duration of a more complicated psychical act, the other factors of the experiment remaining the same.

Donders has applied this method in succession to different sensations, such as the optic, tactile, and auditory, varying his experiments in different ways, and has thus succeeded in drawing up a sort of set of tables of the duration of psychical acts in direct proportion to their being more or less complicated, and to the development of the sensory apparatus which has been stimulated. We shall only dwell on this last point; the duration of the intellectual act, which is required to appreciate a certain sensation, varies according to the peripheric nervous centre which has been stimulated. Here we meet with the very interesting fact that the reaction occurs much more rapidly if the stimulation has been applied to a part of the skin in the vicinity of the brain than to the visual or auditory centres; a visual impression is also perceived later than an auditory. Hirsch (of Neufchatel) had already mentioned this difference. Donders has calculated them to the following amount: the tactile impression is delayed for one-seventh of a second, the auditory for one-sixth, and the visual for one-fifth.

Another and even more important result, and which must occupy us more than the preceding ones, has sprung from Donders' researches, *viz.*, the impression made on the skin need not necessarily be delayed if the distance between the point to which the stimulus has been applied to the skin and the

brain is increased, so that there be a greater length of sensory nerve interposed between them. This simple fact fully justifies our doubts regarding the results of the experiments made for the purpose of ascertaining the rapidity of propagation along the sensory nerves of man. We shall devote the following paragraph to this last point.

V. *On the Rapidity of Propagation of the Impulse in the Sensory Nerves in Man.*—Among the series of acts which take place during the space of time which elapses between the stimulation of a particular spot of the skin and the moment when the signal of voluntary reaction is given, we find one which the physiologists, V. Wittich, Schelske, and others, have considered as occurring constantly, but which, as we have just seen, is in reality very changeable as to duration; this is the cerebral operation. If this intermediate act does last longer whenever it is produced by some extraordinary cutaneous stimulation, such as an electric shock, or by the stimulus, which is either too weak in strength, or applied to some region of the skin where tactile sensibility is scarcely developed, it will easily be seen that these variations of a cerebral act which has been considered as a constant and unvarying one, must create a great amount of confusion in the results of our experiments; *e.g.*, the reaction is known to follow with much greater rapidity when the tip of a finger is stimulated, than when the stimulus is applied to the skin of the shoulders. In what way can we explain this apparent contradiction of the reaction following more rapidly in the first case than in the second, although the cord along which the stimulation travels is much longer in the former than in the latter, except by admitting that the intellectual operation called forth by stimulating the tip of the finger takes place much more rapidly than when it is produced by stimulation of the skin on the shoulder. The former region is of course much more accustomed to come into contact with different objects, and to communicate its impressions to the brain, than the latter. This example suffices to show us that if we have succeeded by this proceeding in finding results which correspond to our expectations, yet we have no right to ascribe to the simple duration of the propagation of the impulse in the sensory nerve the delay which is observed in those cases.

We look with more confidence upon the results which were obtained by M. Bloch through another method in which he has considered very carefully the frequent changes to which the cerebral act is liable. His method is founded on the persistence of the tactile sensations; we cannot dwell on it in this short *résumé*, but a description of it may be found in the *Archives de Physiologie* for 1875, and the *Comptes Rendus* of M. Marey's laboratory for 1877. Let us here simply and briefly mention that the author has succeeded in estimating the rapidity with which the impulse is propagated along the sensory nerves at the rate of 132 mètres a second. This is not at all surprising if we remember that M. Chauveau in his experiments on powerful horses has found that the rapidity equals 75 mètres in the motor nerves. It is generally assumed that the rapidity of propagation along sensory nerves is almost always twice as considerable as that along motor nerves, therefore M. Bloch's statement is quite in accordance with the adopted views. In this general review of the history of the nerve actions considered as to their duration, we have only mentioned the principal points, setting aside more special parts belonging to the question, such as the duration of the propagation of the im-

pulse in the motor fibres of the sympathetic and the pneumogastric nerves, the duration of vascular and cardiac reflexes, etc. As we have already pointed out, our aim was simply not to write an exhaustive article on the subject, but to give a sort of supplement to the papers which have been published by the *Gazette*, a review which might enable any one to follow in special books the development of every one of the points which we have barely mentioned here. The same subject has, however, been treated much more thoroughly in the article on the "Nervous System", published in the *Dictionnaire Encyclopédique*, and contains bibliographical annotations and indications.

HUETER ON AUSCULTATION IN SURGICAL DIAGNOSIS.

PROF. C. HUETER of Greifswald endeavours, in the *Centralblatt für die Medicinischen Wissenschaften*, No. 51, 1878, to establish a scheme of auscultation for purposes of surgical diagnosis. He was at first induced by the trials of the microphone, made by Sir Henry Thompson and Prof. Maas, to consider whether sounds in the human body which cannot be readily heard might not be rendered fully audible with the aid of this instrument. As an instance of such sounds, the murmur of the blood as it circulates through the capillaries of the skin is first described. If the tip of a finger be closely pressed into the external ear a humming noise may be heard. This noise is not produced on the introduction of any foreign substance, such as a plug of wool, a small cork, or a small thimble, but is immediately heard when the tip of a finger is inserted into the thimble. In using an Edison's microphone, furnished with an horizontal plate, a similar sound may be heard on the application to this plate of one or more fingers. If the extremity be rendered bloodless by the application of Esmarch's apparatus, or be exposed to cold, no sound can be heard with the microphone, save the rubbing of the finger on the horizontal plate. This fact and a rhythmical character of the humming sound support the conclusion of Prof. Hueter, that the capillary circulation in the fingers is attended by a murmur that may be distinctly heard with the aid of the microphone.

Assuming that a similar murmur could be heard at every part of the surface of the body, Prof. Hueter sought to find some substitute for the microphone, as the application of this instrument to the surface of the trunk and limbs would necessarily be attended with much difficulty. Success attended the use, with slight modification, of a Voltolini's stethoscope—an instrument that consists in a small funnel, the larger extremity of which is to be applied to the surface of the body, and the smaller extremity is continuous with a flexible tube ending in a nozzle of sufficient size for deep and at the same time close insertion into the outer auditory canal. To this instrument, when modified and rendered more useful, by stretching across its wide and open extremity a layer of thin membrane, Prof. Hueter gives the name of dermatophone. By the aid of this a cutaneous capillary murmur may be heard at every part of the surface of the body. The murmur is loudest and can be best heard in the fingers and more prominent portions of the cheeks, just in regions where the capillaries are most numerous and the circulation most active. The noise is much more distinct on the volar than on the dorsal surfaces of the fingers.

Prof. Hueter states that in acute inflammation of the skin, with considerable inflammatory hyperæmia, the murmur becomes louder, and, at the same time, deeper in tone, as may be readily accounted for by the larger quantity of blood in the inflamed part, and by the dilatation of the small vessels. In stasis of the blood in the cutaneous vessels, as for instance when the toes become blue and cold, and lose sensation after the close application of a bandage to a fractured leg, the murmur is so feeble as to be hardly audible. When, after removal of the tight bandage, the foot becomes very warm, and of a bright red colour, in consequence of dilatation of its vessels, the capillary murmur may be heard more distinctly in this than in the opposite extremity. No sound can be heard on the application of the dermatophone to an old scar.

The modified stethoscope can be used also as a myophone and tendophone, and for the purpose of studying sounds produced in muscle and tendon. The integument, stretched by firm application of the instrument, serves as a good conductor of sound from muscular structure to the membrane over the wide extremity of the funnel. The sounds that may be thus heard vary according to the relations of muscular to tendinous substance. The former, by the contraction of its fibres, produces a peculiar sound, known to physiologists as the muscular tone. Over a tendon, one or other of two sounds may be heard, either the special muscle sound, conducted through the tendon of the muscle, or a sound produced by the tendon itself, as a result of passive extension, that is to say when it is stretched out through contraction of an antagonistic muscle. These two distinct sounds may be well recognised on applying the funnel to the palm of the hand, over the third and fourth metacarpal bones, during alternate flexion and extension of the fingers. On flexion of the fingers, as if to close the fist, a dull sound may be heard, which is the "muscular" or "contraction" tone, produced in the bellies of the digital flexor muscles, and conducted along their tendons. A similar sound may be distinctly heard on placing the funnel over these muscles whilst they are contracting in the upper part of the fore-arm. If the fingers be now extended, the dull muscular tone will be lost, and a higher and clearer sound will be heard over the same tendons, which are now passively extended, through contraction of the extensor muscles. With regular flexion and extension of the fingers, these two sounds, the dull muscular and the loud and clear tendinous sound, will be produced at regular intervals. In a muscle with a very short and thick tendon, as the biceps brachii, for example, the tendinous sound will be found very dull, and hardly distinguishable from the sound transmitted directly from a contracting muscle.

Prof. Hueter states that the modified stethoscope is very suitable for use as an osteophone, that is to say, for distinguishing sounds produced in bone by percussion. The sound may be best produced by Lücke's small percussion hammer, with whale-bone handle. According to Lücke, the epiphysal portion of a long bone gives off a clear sound on percussion, whilst its diaphysis gives off a dull sound. If the capitulum ulnæ be percussed and the funnel be placed over the olecranon, a very clear and high sound will be heard. A long bone is so good a conductor of sound that the tone produced by percussing the capitulum ulnæ can be heard by means of the osteophone almost as distinctly over the olecranon as over the lower third of the shaft. If the hammer

be applied to different portions of the bone, a succession of different sounds will be heard, which become less clear and distinct the nearer the seat of percussion to the middle of the shaft, these variations depending on the thickness of the cortical layer, and on the absence or presence of cortical substances. These sounds are to be heard only in the ulna of a living subject or of a very fresh skeleton. Similar sounds may be produced on percussing the tibia and fibula. Percussion of the femur and humerus is attended with some difficulty in the living subject, in consequence of the thickness of the surrounding soft parts. On percussing the inner condyle of the femur a clear sound may be heard through the funnel, applied either over the greater trochanter or over the thick fascia, continuous with the tensor vaginae muscle.

W. JOHNSON SMITH.

OLLIER ON RESECTION OF THE ELBOW FOR ANKYLOSIS.

IN an able essay in the *Revue Mensuelle de Méd. et de Chir.*, bearing that stamp of sound judgment and wide experience and research which we should expect from this author, M. Ollier makes several propositions, which put the question of resection of the elbow joint in a wholly new light, deserving the attention of all surgeons.

The entire subject is handled at considerable length, anatomically, clinically, and historically, and with great care, but his practical conclusions may be briefly summarised as follows.

He admits that the grounds upon which we usually resect the elbow-joint for disease are sound, viz., to put an end to long and wasting suppuration, etc. But he goes farther, and advocates the operation in all cases where ankylosis is imminent. He enters a protest against the generally received idea "that ankylosis at a right or slightly obtuse angle after grave arthritis of the elbow should be regarded as a fortunate result, which it is proper to respect". This result should, he says, be forestalled, and "whether the arthritis be cured or not, one is justified in resecting with the one aim in view of restoring the movements of the joint if the subject is in a condition as regards age, social position, etc., which render the operation certain in its results and necessary."

But, again, if an existing ankylosis is bilateral, the operation is indisputably called for, no matter at what angle it has taken place; also if unilateral, when the subject is young and likely to be much troubled in his occupation by the loss of motion of the joint.

The author regards himself as justified in these conclusions by a careful study of the results of recorded cases, and by the success of his own operations, which are described in detail in the paper before us. But he guards himself in thus advocating very free operation. He remarks very truly that "before undertaking a resection of the elbow for ankylosis we must examine and know the conditions which experiment has shown to be necessary for the establishment of a new articulation". These he points out in his paper. We have two great dangers to avoid: in young persons a return of the ankylosis, in adults undue mobility of the new joint, calling in each case for an intelligent modification of the operative procedure. He recommends the subperiosteal method, but, if so, a zone of periosteum corresponding to the line of the new joint must be

removed, so that there shall be a break in the new bone formed, and ankylosis may thus be prevented. The bones should first be separated with chisel and mallet if ossified too firmly to be broken with the hand. Mere removal of a cuneiform portion of bone at the joint will not answer: a complete resection must be performed. And even so in young subjects it requires the greatest care to prevent ankylosis returning.

Finally, in the subsequent treatment of the case, the surfaces of section must be kept apart to a degree proportionate to the tendency to ankylosis depending on the youth of the subject, etc. Other things being equal, they will be brought nearer together, the farther the individual has passed the period at which osseous development ceases.

ARTHUR E. BARKER.

H. TILLMANNS (OF LEIPZIG) ON EXPERIMENTAL AND ANATOMICAL INVESTIGATIONS CONCERNING ERYSIPELAS.

THESE observations "were undertaken in order, if possible, to obtain further and more accurate information upon some contested points regarding erysipelas". The experimenter has addressed himself here, especially to the answering of the four following questions:

I. Is it possible to convey erysipelas by inoculation from a diseased to a healthy individual? In other words, do those fluids obtained from the tissues of an erysipelatous part and employed for inoculation (e.g., lymph, blood, the contents of bullæ, pus, etc.), exercise a specific, i.e., contagious action on healthy individuals when inoculated, or do they not?

II. What is the action of carbolic acid upon those erysipelatous animal fluids which produced the same disease on being inoculated into healthy individuals, and therefore in all probability contained the erysipelas poison?

III. In what way is it possible (apart from the direct conveyance) to produce erysipelas in healthy animals by the application of different morbid matters?

IV. What do we learn from the results of anatomical and experimental investigations regarding the presence and significance of bacteria? What relation have they to erysipelas?

It would be difficult to suggest four more interesting and important questions for the practical and scientific surgeon than these. But in proportion to their importance are the difficulties which surround them. These, however, are grappled with by the author courageously, patiently, and honestly, and the result is at all events a series of experiments of extreme interest, whatever be the conclusion, we may feel disposed to draw from them. Indeed, the writer himself seems to have set out upon his investigations purely with the desire to learn whatever is to be learned on the points stated, by careful and patient anatomical research, and without being wedded to any particular theory in regard to them, or desiring to force any conclusion.

Recognising the great importance of the subject, and the efforts that have been made by others in the same direction to throw light upon it, notably by Willan, Ponfick, Orth, Bellien, Zuelzer, and Lukomsky, he has also recognised many points in which these observers have failed, and has endeavoured

voured, in following out somewhat similar lines of research, to avoid their, and other, errors.

To the danger of one great source of possible error the author seems specially alive, namely, the introduction of other matters into the system of the animal operated on than the mere morbid fluid inoculated, and this he has endeavoured to guard against by the most scrupulous cleanliness in obtaining, preparing, and introducing such fluids into the bodies of the animals.

In touching upon the first question his first care is to define as clearly as possible what are the clinical features which characterise erysipelas in the human subject. He then details all his experiments, and, from the kind of success of five out of twenty-five inoculations he believes there can be no doubt "that erysipelas is inoculable in rare cases; that fluids from an erysipelatosus part display a specific contagious action". In three cases he inoculated animals from the human subject successfully with erysipelas, and in two cases animals were infected from other animals. He believes, too, that one human subject might be inoculated from another.

In regard to the second question propounded, four experiments were made with erysipelatosus inoculation material, which had been potent in other cases, but here a portion of 2-4 per cent. solution of carbolic acid was added. In none of the cases was there any appearance of either local or general symptoms of any disease.

In answer to question III, all the author's results were negative. In no case was erysipelas produced by even the most putrid inoculations, when they were not taken from an erysipelatosus part. In several cases, however, the animals died of distinct septicæmia.

The observations on the last point (IV) which are related in detail, point to the conclusion that bacteria are present in some cases of erysipelas and absent in others, so that we may infer that the advance of the disease does not depend upon their presence.

In conclusion, it need only be remarked that this brochure is well worth attentive perusal throughout, though we have been obliged to omit details here.

ARTHUR E. BARKER.

SCHRÖDER'S REPORT OF FIFTY MORE OVARIOTOMIES.

THE author gives a short sketch of the results of fifty more operations in No. 1 of the *Berl. Med. Woch.*, 1879. With one exception, all the operations have taken place in the lying-in hospital, and dressed according to Lister's method. Forty-three, equal to 86 per cent. of the patients, recovered; seven died, equal to 14 per cent. These numbers show that this second batch of operations had a much more favourable result than the former. All the deaths were caused by very difficult and complicated operations.

In one case, in order to stop the hæmorrhage from the adhesions which had been divided, the left epigastric artery had to be ligatured. On the eleventh day, however, the patient suffering from stercoraceous vomiting, the peritoneal cavity had to be reopened, when it was found that the rectum was pressed by an adhesion against the right sacro-iliac articulation. The patient died soon after.

In another case, which ended fatally, a very extensive myxomatous degeneration of the peritoneum was found. A third death may, perhaps, be explained by syncope, as the necropsy revealed no other cause of death, except fatness of the heart. A very weak

patient, who had been operated on for a sarcoma, died two hours later from the effects of the shock.

The three remaining patients died with symptoms of septicæmia. The four last cases were much complicated by extensive and solid adhesions. The author observes here that even in observing strictly the greatest precautions, it is not always possible to keep the abdominal cavity free from zymotic germs, and that the latter will have a much better chance of developing in patients who are of a weak constitution, or who have been much weakened by previous serious operations, while a healthy organism will be more able to resist them. If, however, no zymotic germs have penetrated into the abdominal cavity, even the most dangerous cases may be expected to turn out favourably, e.g., in cases of extensive adhesions to the true pelvis, which are sometimes complicated by a subserous development of the tumour. In two instances, although the woman was pregnant, the operation did not terminate fatally. The author strongly advocates operating during the first months of pregnancy, because through the operation the woman will be spared the perils which might spring from a complication of gravidity and ovarian tumour. The child does not run any greater risks than it would if the pregnancy had been allowed to come to its normal end.

The following cases also are of some interest. In one instance a cyst of the size of a man's head was complicated with a solid tumour of the os sacrum and a thrombus of the left crural artery. The patient survived the operation, and soon recovered. In the second instance the patient was a young woman, aged 27, who had suffered ever since a fall from violent nervous disturbances. Both the upper and the lower extremities were continually twitching spasmodically, so that she was not able either to eat or walk. The uterus was completely retroflexed, and the right ovary was changed into a tumour of the size of a duck's egg. As soon as the uterus had been replaced, the nervous troubles ceased, but only temporarily, as the organ again retroflexed. Ovariectomy was then performed, and in order to prevent retroflexion the base of the tumour was sewn into the abdominal wound. The patient recovered. Small tumours present more difficulties than larger ones; the author, however, always makes an opening large enough to allow of introducing the hand entirely into the wound. If the tumours are uncommonly large, the walls of the abdomen are too much stretched, and the abdominal cavity is comparatively empty. This may be the cause of infection through air entering it, and carrying zymotic germs with it. To prevent this, the author always draws the intestines into the true pelvis, if they should not have already sunk into it, and covers them with the omentum. In cases where this could not be very well done, because of the shortness of the mesentery, the relaxed abdominal walls must be pressed deep into the true pelvis. In two cases portions of the abdominal walls were removed, but without producing any particularly favourable results.

ATHETOSIS.

SEVERAL cases of this extremely interesting and rare disease have of late come under notice (*Soc. Anat.*, Paris, January 1878; *Upsala läkare-förenings förh.*, Band xii, p. 91, 1877; *Revue Méd. Franç. et Étrang.*, January 1879. In each of them peculiar and characteristic symptoms have been observed. In one case

it was even possible to make a *post mortem* examination; so far as we know, the first time that a necropsy has been made in athetosis.

The patient in this case was a woman aged 32, who had for thirty years suffered from incessant movements of the right hand, fore-arm, toes, and metatarsal joints, which affections had been brought on by a great fright. The peculiarity in the case consisted in the convulsive movements being limited to the right side, the patient never having had any convulsiform fits, neither had there been any intellectual or sensory troubles. She was a well-built woman, with straight well-shaped limbs, which did not show the slightest symptom of a paralytic affection. The unilateral movements must therefore have been caused by a single lesion, discovered at the necropsy in the extra-ventricular nucleus of the left restiform body. The lenticular nucleus was occupied in its anterior portion by a focus, which contained in its centre a calculus of the size of a French bean. The left cerebral peduncle was smaller than the right, but the lobe was undiminished in size. This might lead to the inference that during the process of cerebral softening a certain number of the lenticulo-peduncular fibres had been absorbed into the focus. The inflammatory process had not gone beyond the lenticular nucleus, and no other lesion could be traced in the brain.

Both the other cases also present several very interesting phenomena. No *post mortems* have been as yet made in either case. In the one case, the patient, æt. 36, had for some time previously been under treatment for syphilis. Four years before the first symptoms of athetosis appeared the right internal muscle of the right eye became paralysed. A year later he suffered from violent cephalalgia and nystagmus. Later on there was hemianæsthesia and loss of consciousness, and still later amaurosis of both eyes and paresis of the lower extremities. An examination with the ophthalmoscope showed oedema of the right pupil, combined with grey peripheric degeneration and white atrophy of the left pupil. In the beginning of the following year it was first noticed that the patient's right hand executed involuntary movements of flexion and extension. A fortnight later, successively all the fingers of the right hand began to contract, and in a few months the contractions were executed rhythmically, and consisted in complete extension and abduction, alternating with a slow flexion, accompanied by adduction. The flexion was executed in the metacarpophalangeal joints, and there were about one hundred and fifty flexions and extensions a minute. If the fingers were held fast, so as to prevent them from moving, violent movements of extension and flexion immediately came on in the arm and head. During sleep the twitchings only ceased as long as it was deep and sound, but towards morning, when it became lighter, they came on again, and lasted all through the day. The right fore-arm was much thinner than the left, but not in the least painful. If the head was not supported it moved horizontally. These movements were even more distinctly seen whenever the patient attempted any voluntary movements.

The third case is even more remarkable, as there is absolutely nothing at all in the previous history of the patient which might give a clue as to the etiology of the disease. The gentleman in question, who is a teacher by profession, had always been well; there was no history of syphilis or alcoholism. The only accident he had in his life was a severe scald of the

left leg, which happened when he was five years of age. At the age of twenty, when out walking with some friends, they suddenly noticed that both his mouth and face were all on one side. He himself would never have noticed it, as there was neither impediment in his speech nor any other motor or sensory trouble. This slight attack of hemiplegia vanished after two months, during which the patient only applied blisters once or twice. Five years later he began to notice involuntary twitchings in the three last toes of the left foot, which lasted until the present time, and are entirely independent of the volition of the patient. He does not know whether they cease during sleep or not, and they last all through the day. The movements are similar to those we have described above, and consist of a simultaneous extension and abduction, followed by adduction of the three last toes of the left foot; the second toe is also slightly affected. The patient says that he feels the movement vibrating as it were through the whole of the left side, both extremities included. There is a feeling of numbness on the dorsal and plantar surfaces of the foot, as well as a constant tingling, but this does not prevent the patient from walking. The patient was very carefully examined, but not the slightest trace of any disease or nervous trouble could be found. He was perfectly healthy in every respect, and neither motility nor sensibility have ever been abnormal, not even at the time when he had the attack of hemiplegia.

A very curious phenomenon observed was the following. Whenever the twitching toes were slightly stroked near the insertion of the tendons the contractions ceased. The same occurred when the outer side of the leg was slightly rubbed. If we compare these three cases, summing up the individual symptoms, we see that in the first and second cases there may be said to exist an etiology of the disease. The first patient underwent a severe shock to her nervous system through a violent fright, and the second had not only had syphilis but also an attack of paralysis of the lower extremities, complicated with amaurosis. We know from the *post mortem* results in the first case that there existed an affection of the brain, and may, from the symptoms in the second case, infer that there must also have been an affection of the nervous centres. As for the third patient, the slight attack of hemiplegia which he had had five years before the athetosis showed itself, may be considered as the cause of the disease, which may be classed under the head of post-hemiplegic athetosis. The nature of the lesion of the brain in the first case cannot be clearly defined. It may have been a glioma or a tubercle, which perhaps sprung up at the time when the symptoms of the disease first showed themselves, and was arrested in its growth by some unknown conditions.

The primary cause of the twitchings in this case is not clearly ascertained. Was it the irritation to which the lenticulo-peduncular fibres which passed through the focus were constantly subjected, by the process of degeneration, or were certain fibres belonging to the capsula interna, and which ran along the borders of the focus, the conductors of the irritation? Was this irritation caused by the cicatrization process going on in the focus or by the calculus contained in the latter?

We are unable to answer all these questions satisfactorily, but we may consider ourselves justified from the facts ascertained in agreeing at least in this case with the school of the Salpêtrière, which looks upon athetosis as a variety of symptomatic chorea.

DEMANGE ON AZOTURIA.

THE importance of the study of urology has of late been more fully realised by medical practitioners, and M. Demange in his thesis (*Thèse de Paris*, 1878) has undertaken to give a full account of the progress of this branch of medical science, being also fortunate enough to be able to enrich it by several new or very little known observations on azoturia. The latter seem the most interesting part of his thesis; we give them here briefly. The normal quantity of urea which must be contained in the urine in the space of twenty-four hours is from nineteen to twenty-four grammes. If more or less is excreted, this is caused either by some local or general affection. Some years ago, Bouchard, in studying the causes of loss of flesh in patients suffering from diabetes insipidus, discovered that a large number among them lost an enormous quantity of urea. Having thoroughly examined their symptoms he thought himself fully justified in describing azoturia as a special disease, having peculiar clinical symptoms. The affection begins with a sensation of ravenous hunger, polydipsia or profuse sweating. The thirst is excessive, and the urine passed is generally in proportion with the quantity of drink swallowed by the patient. Its density is from 1000 to 1002. In order to be able to calculate justly the amount of urea lost in twenty-four hours, all the urine passed in this time must be kept and mixed. In some cases it has reached the amount of eighty-seven grammes, a most enormous quantity, which proves that nutrition is very much impaired. Senator Kien and M. Bouchard have shown that what is called extractive matter is eliminated, corresponding to urea in such cases, and that chlorates and phosphates are ejected in a similar proportion. We must, therefore, not be astonished if the patients present general symptoms which are analogous to those of diabetic patients, with the exception of the visual troubles of the latter. Both the crystalline lens and the retina remain intact, and the sight is only influenced by the anæmic state of the brain, which is caused by the dyscrasia, and which in certain cases produces a torpor of the intellect verging on imbecility. As in cases of diabetes mellitus and albuminuria, sometimes the quantity of urea decreases, and even falls below the normal amount.

In order to be able to make an exact diagnosis, it is necessary to examine carefully, both the urea and the other excreta, for several days consecutively. As a rule, persons attacked by simple polyuria, or who are suffering from interstitial nephritis, beginning with polyuria, do not present the symptoms which we have enumerated.

Disturbances of the nervous system and alcoholism claim the first place in the etiology of this affection, and indicate the treatment which has to be adopted. It consists in administering drugs to calm the nervous erethism (opium and valerian), and to put a stop to the excessive and progressive impoverishment of the tissues (arsenic, a suitable diet, etc.) Valerian has proved specially successful in different cases, even effecting a complete cure. Besides these cases of azoturia, combined with polydipsia, Bouchard thought that there was another form of the same disease, in which there was no abnormal excretion of urine, although the latter contained an excessive amount of urea. However, as his observations in that respect are far from being satisfactory, and as these are evidently cases of cachexia, the etiology of which is very obscure, it will be wiser to leave them

alone for the present. The author then goes on to consider the much-debated question on the varying amount of urea in glycosuria. In some patients suffering from the latter affection, as much urea is eliminated as the general amount in azoturic patients. It is true, however, that there may be something more than a simple coincidence between these two affections, and several authors have tried to link them together. Lécorché, who admits the hepatic theory of the formation of urea, thinks that this is only the double result of hyper-activity of the functions of the liver. Bouchard, on the contrary, considers it as a true complication of the existing affection, where troubles of nutrition are added to those resulting from insufficient respiratory combustion. According to him, the difference between melitæmia and azotæmia consists in the first resulting from the accumulation of a product of secretion, while the second results from the accumulation of a product of excretion. Azoturia is, therefore, as we have said, only a complication, an accessory element which must, however, be considered as being a most important prognostic symptom. According to the same author the abundance of sugar in diabetes is owing more to a want of combustion than to an exaggerated production of this substance in the organisms. If this be the case, how can we explain the coincidence of an abnormally low temperature with the production of an exaggerated quantity of urea, such as has been observed in every case without exception? This is the weak point of M. Bouchard's theory, and it would perhaps be better to refrain from giving a decided opinion on the subject till it has been more thoroughly studied. In short, whenever there is an excessive excretion of urea we may consider it as a symptom of incipient cachexia, followed by loss of flesh. The most important question, however, for the medical practitioner is the following: are these two affections to be considered as belonging to two different groups, but having been developed incidentally at the same time in the same patient; or are they connected through a link which is still unknown to us, thereby forming one affection or disease? If these questions could be solved, there might be some hope of discovering some rational mode of treatment, so as to prevent albuminuria from setting in, in which case all is lost. In another chapter we find the calculation of the amount of urea excreted in several chronic diseases, such as obesity, syphilis, and athrepsy. Here it is easy to make a mistake, and still more so to err in trying to interpret the results obtained, because here the nourishment taken by the patient plays an important part, which is easily overlooked, *e.g.*, in fleshy persons. Azoturia may be produced either by excess of food, or by abstaining from farinaceous food. The only way of ascertaining if the combustive functions are really exaggerated in a patient would be to compare the amount of chlorates contained in the secretions with the weight of the patient. Since Brouardel published his paper, on what he termed the uropoietic functions of the liver, several experiments have been made to ascertain the amount of urea excreted in diseases of this organ. The results have been very contradictory, but it is certain that large quantities of urea have been found in the urine of patients whose liver was completely degenerated.

MEDICINE.

RECENT PAPERS.

- MADER.—Treatment of Disease of the Stomach by the Stomach Pump. (*Med.-Chir. Centralbl.*, Nos. 49, 50, 51, 52.)
- SEGUIN.—Diagnosis of Progressive Locomotor Ataxy. (*Series of Amer. Clin. Lect.*, Vol. iii, No. 12.)
- WRIGHT.—What was it? Case of Yellow Fever. (*New Orleans Med. and Surg. Journal*, No. 6.)
- Yellow Fever. Orleans Parish Medical Society. (*Ibid.*, No. 6.)
- SEGRE.—Contributions to the Study of Scurvy. (*Giornale Veneto di Scienze Mediche*, November 1878.)
- LOREL.—Observations on the History of Malaria. *Gaz. Hebdom.*, Nos. 49, 50, 51, 52.)
- PETER.—Hygienic Treatment of Tuberculosis. (*Bull. de Thérap.*, Nos. 11, 12.)
- POTAIN.—Congenital Syphilis of the Liver, Spleen, and Kidneys. (*Gaz. d'Hop.*, No. 151.)
- FOURNOL.—Yellow Fever at Madrid. (*Journal d'Hyg.*, No. 118.)
- ANDEN.—Case of Rupture of the Kidneys. (*St. Petersburg Med. Woch.*, No. 50.)
- CLARK.—Varieties of Pulmonary Phthisis. (*New York Med. Rec.*, Nos. 24, 25.)
- STEKLE.—Case of Successive Aneurism. (*Edinburgh Med. Jour.*, No. 283.)
- MOIR.—On Croup. (*Ibid.*, No. 283.)
- MAURIAC.—Symptomatic Amblyopia of Cerebral Syphilis (*France Méd.*, Nos. 99, 100, 103.)
- STADLER.—Diphtheria. (*Med.-Chir. Centralbl.*, No. 51.)
- DUMAS.—Remarkable Case of Cardiac Lesion. (*Montpellier Méd.*, Nos. 2, 3, 6.)
- DAU.—Accidents caused by the Bite of the Black Spider. (*Ibid.*, No. 6.)
- HAMILTON.—The Value of Absent "Tendon-Reflex" as a Diagnostic Sign in Loc. Ataxy. (*Boston Med. and Surg. Jour.*, No. 25.)
- ECCLES.—Case of General Cancer, with Symptoms of Addison's Disease. (*Ibid.*, No. 25.)
- WIGGLESWORTH.—Recent Progress in Syphilography. (*Ibid.*, No. 25.)
- PEPPER.—Intravenous Injection of Milk. (*Ibid.*, No. 25.)
- HOLSTEIN.—Echinococcus of the Liver. (*Hospitals-Tidende*, No. 51.)
- HOLM.—Remarks on Erythema Exsudativum Multiforme. (*Ibid.*, Nos. 50, 51, 52.)
- LEUBE.—An Uncommon Case of Spasm in the Facial Nerve. (*Aerzt. Intellbl.*, No. 53.)
- C. L.—On Sudden Death in Typhoid Fever. (*Jour. des Conn. Méd.*, No. 24.)
- Case of Poisoning by Arsenic. (*Ibid.*, Nos. 23, 24.)
- FRONMULLER.—Febris Intermittens Tetanica. (*Memoir.*, No. 11.)
- ZERONI.—Morbus Hæmorrhage after Typhus Abdom., and during Febr. Remitt. (*Ibid.*, No. 11.)
- RURZ.—Lukæmia. (*Ibid.*, No. 11.)
- DENIS-DUMONT.—Lectures on Syphilis. (*Année Méd. de Caen*, No. 1, 1878.)
- WIART.—Intestinal Worms. (*Année Méd. de Caen*, No. 1, 1878.)
- WINTER.—On the Relations between Typhoid Fever and Mental Diseases. (*Friedreich's Blätter für ger. Med.*, No. 1, 1879.)
- DIEHL.—Poisoning by Carbonic Acid. (*Ibid.*)
- FIEBOL.—Endocarditis Ulcerosa. (*Union Méd.*, No. 4, 1879.)
- FRANCK.—Double Pulsations of Intrathoracic Aneurism. (*Gaz. des Hôp.*, No. 4, 1879.)
- CHARCOT.—Hysteria. (*Progrès Méd.*, No. 2, 1879.)
- SÉE.—Etiology of Anæmia. (*Gaz. Méd. de Paris*, Nos. 2, 3, 4, 1879.)
- MATTERSTOCK.—On Auscultatory Phenomena of Arteries, in relation to Heart Diseases. (*Alleg. Med. Centr. Zeit.*, No. 4, 1879.)

DUJARDIN-BEAUMETZ ON SUDDEN ARREST OF THE CIRCULATION IN THE SUPERIOR VENA CAVA IN A CASE OF AORTIC ANEURISM.—The patient, a cabman (*Gazette Hebdomadaire de Médecine et de Chirurgie*) was admitted into the Hôpital St. Antoine having been suddenly seized with cyanosis and great dyspnoea. He had suffered for some time from pain in the right subclavicular region, and his expectoration had been occasionally tinged with blood; but there was no cause to which he could refer this sudden attack, and he had been following his occupation up to the time of his admission. His body presented a curious aspect; the upper part, the trunk, the head, the upper limbs, in short, all that part whose venous system is tributary to the superior cava, was of a bluish hue, while the lower part, the abdomen, and lower limbs were of a normal colour. The cyanosed parts were swollen and oedematous, particularly the face and upper extremities; the veins of the neck were distended. In the sixth, seventh, and eighth left intercostal spaces chains of varicose capillaries were very evident, obviously of some standing and pointing to a long existing obstruction in the venous return. Over the upper part of the abdomen on the right side, the subcutaneous veins took the form of large, varicose, venous cords, showing that much of the blood which should find its way back to the heart by the superior cava was returned by the inferior cava.

Examination of the chest revealed an area of dullness extending in front from the clavicle to the fourth interspace, and behind to a corresponding extent in the scapular and sub-scapular regions. Over this area a very loud, harsh systolic murmur was heard, almost completely drowning the breath-sound, which was very indistinct. The same murmur was heard, though very feebly, at the cardiac apex, but loud and harsh along the course of the aorta. Expansile pulsation opposite to the second, third, fourth, and fifth right interspaces. Both upper extremities are very dense, large, and painful, and of a pale bluish colour. Voice feeble, hoarse, respiration difficult. The cyanosis diminished greatly after a few days in hospital (axillary temperature lowered, right side 35.2 Cent., left side, 34.6 Cent., in rectum 37°), but soon returned, and, notwithstanding leeches behind the ears and bleeding from the right jugular vein, increased in intensity. The face became bloated, the complexion blue, with reddish patches, lobules of ears cold, eyes injected and weeping, voice stifled. The back, which had remained nearly of normal colour, became blue also, with patches of varicose capillaries, like those on the front of the chest; but here, as in front, the blue colour terminated abruptly at the base of the thorax. Four days before the patient died (he died twelve days after admission) a curious murmur was heard close to the spine on the right side, opposite the ninth, tenth, eleventh, and twelfth interspaces. It was a well marked continuous bellows-sound, intensified at each systole. It was not audible above the ninth interspace, nor on the left side of the spine.

The autopsy revealed the existence of an aneurism as big as the fist at the commencement of the aorta; along its posterior wall was the vena cava, completely compressed by the aneurismal sac; it contained no clot, but its walls were so thin and fragile that it was very difficult to pass even a small probe through the vessel without lacerating it. The clot which had led to the complete obstruction of the venous circulation of the upper part of the body, was found in the vena axygos, which was enormously

dilated, and obviously replaced the superior cava. This vein appeared directly continuous with the brachio-cephalic trunks. Lower down it became much smaller, and on the level of the eleventh dorsal vertebra was diminished about one-fourth in diameter; here it divided into several branches connected with the lumbar veins, and did not join directly the vena cava inferior. About its middle third a clot was found, from 5 to 6 centimètres in length, of a yellowish red colour, and softish consistence, easily detached from the walls of the vein, which were unaltered. It is easy to understand that the result of this clot was the same as if it had been placed in the superior cava, for it was wholly due to this vast supplementary circulation that the patient had been able to live so long without grave symptoms. It was a question whether the soft bellows-sound heard at the base of the thorax on the right side of the spine was due to the changes in the azygos venous circulation (it ceased a few days before death), or whether it was an aneurismal murmur transmitted along the vertebral column.

J. BURNEY YEO, M.D.

MCCALL ANDERSON ON ADDISON'S DISEASE.—This case is published by Dr. McCall Anderson in the *Glasgow Medical Journal* for January 1879. A boy, aged 19, was admitted to the Western Infirmary, suffering from loss of appetite, extreme languor, and weakness. One of his brothers suffers from lung disease, the rest of his family are healthy. He was always strong and well till five months before his admission, when he lost all inclination for food, and was inclined to sleep much; exertion of any kind was very distressing to him, and he emaciated rapidly. The darkening of his skin was noticed soon after by his friends. When first seen he was emaciated, weighing only 7 stones. The whole skin was dirty brown, especially so in scrotum, penis, and nipples. The vaccination marks on the left arm were dark, and the site of a former mustard plaister was also dark in colour. The mucous surfaces were everywhere pale. No other disease could be detected. He was treated by blisters to the lumbar region, rest, and cod-liver oil, good food, and wine. Upon this plan he gained 1 stone 10½ lbs. in weight in three months.

A case of Addison's disease associated with leucoderma occurs in the same paper as the preceding case. A married man, aged 50, was first seen on April 4, 1872. He was then complaining of seminal emissions, slight eczema, erythema, and great pallor. He soon recovered under a course of iron, and he was lost to sight until August 1876, when he again complained of loss of strength, and weakness. A dirty pallor of skin was then noticed, contrasting strongly with the pearly conjunctivæ. Nine months later all his symptoms were exaggerated, and nausea was superadded. He next began to vomit, and the dusky tint of his skin became more pronounced. On the backs of his hands and arms the colouration presented all the appearances of leucoderma (white patches surrounded by others which were deeply pigmented). He died in October 1877. The kidneys were large, white, Bright's kidneys, and the suprarenal capsules were converted into masses of pale, yellowish-white substance, mottled here and there with pale grey, and yellow tints. Dr. McCall Anderson uses this case to indicate the possible association of leucoderma and Addison's disease, and adduces the generally-received opinion that both are due to disturbance of function of, or organic change

in, the sympathetic nervous system as a collateral argument in favour of this view. He then proceeds to show that leucoderma and alopecia areata are allied, and then argues that all the three are thus brought into connection. He states his opinion thus: Of course, I do not mean to say, nor do I suppose, that disease of the suprarenal capsules has anything to do with the production of vitiligo or of alopecia areata, but simply that a somewhat similar perversion of the function of the sympathetic nerve lies at the root of all three.

MEDULLARY CANCER OF THE KIDNEY IN A CHILD SIX MONTHS OLD.—This case is reported in the *Glasgow Medical Journal* for January 1879, by Dr. Scott Orr. The *post mortem* was made by Dr. Foulis, and we note two points worth attention. 1. That the child was not emaciated; and 2. The tumour was distinctly encapsuled, and the remainder of the kidney was easily peeled from it.

[We have seen a somewhat similar case under the care of Dr. Taylor at the Evelina Hospital. The tumour was so easily shelled and removed after death as to suggest that it might have been removed during life had the operation of abdominal section been attempted.—*Rep.*] J. F. GOODHART.

BROWN ON DROPSY OF THE GALL-BLADDER.—Mr. George Brown reports an instructive case in the *British Medical Journal*, December 1878, page 916, of a female who, after suffering from an enlarged gall-bladder for nearly a whole year, with gradually increasing urgent symptoms, was aspirated, with the effect of drawing off six ounces of yellow, non-fetid pus, without however any corresponding diminution in size of the tumour. Twelve days, subsequently, the symptoms were so urgent that Mr. Brown cut down on the tumour, but failed to reach the gall-bladder. After an hour's exploration and discussion, previous to sewing up the wound in the abdominal walls, a mass of adhesions, to the left of the umbilicus, were torn through with the finger, and the edges of the wound brought together with silk sutures. Four hours afterwards the temperature was 99.8°, and pulse 88. During the night violent retching set in, and the nightdress was found saturated with a yellowish fluid, of which it was estimated at least a pint had escaped. From this time recovery set in with but slight interruption, all signs of tumour disappeared, and at present she never felt better in her life. This case read with Dr. Sims's, published in the *Journal*, June 8th, is of great interest, more especially as at the time Dr. Sims was reporting his case of cholecystotomy, an operation which Dr. Thudichum had suggested twenty years previously, Mr. Brown's patient was convalescent. RICHARD NEALE, M.D.

C. BIOT ON CHEYNE-STOKES' RESPIRATION.—In a short note *additionnelle sur quelques points particuliers du phénomène respiratoire de Cheyne-Stokes*, Dr. C. Biot merely insists upon the truth of the views he has expressed in two previous papers upon the phenomena associated together under the name of Cheyne-Stokes' respiration. It is especially written as a reply to the criticisms that have been passed upon his former papers. He accepts as true the statement of M. Filchne that the phenomena of Cheyne-Stokes' respiration can be produced experimentally by hindering and promoting successively the afflux of arterial blood to the brain. Dr. Biot especially emphasises the great distinction between true Cheyne-Stokes and other more or less irregular respiratory rhythms; it is the gradual diminution of

the amplitude with lengthening of the expiratory period before the apnoea,* and of the gradual resumption with increase of the amplitude and acceleration of the movements, after the pause, which is so especially characteristic of Cheyne-Stokes' respiration. Two tracings are given to illustrate this, one from a case of Cheyne-Stokes' respiration, the other from a case of irregular respiratory rhythm occurring in meningitis. With regard to the arterial tension during the two conditions of apnoea and hyperpnoea, the author states that the tension is diminished during apnoea, and increased during hyperpnoea, and that following Marey's law that the frequency of heart-beats is in inverse ratio to the arterial tension, the heart-beats are frequent during apnoea and infrequent during hyperpnoea. In his previous paper the author stated as the result of experiments upon himself, that the voluntary production of apnoea produced an increased frequency in the pulse-beats; this statement has been regarded as hypothetical by some of his critics, who had failed to obtain similar results, and to his surprise, on repeating his observations many times, failure occasionally occurred also to him. A law has been discovered, however, which explains the apparent contradictions; if one ceases to respire, the thorax being in a state of inspiration, there is generally a slowing of the cardiac rhythm; if on the contrary one fixes the chest-walls in expiration, the heart-beats are always accelerated. Dr. Biot draws attention to the fact that in Cheyne-Stokes' respiration the chest-walls are always fixed in a state of *expiration*, and therefore the cardiac-beats are increased in frequency; he takes this opportunity of modifying his previous statement as to the effect of voluntary apnoea in modifying the cardiac rhythm, and adds to his former statement that during the period of cessation of respiration the thorax must be in a state of expiration. Concerning the etiology of this phenomenon Dr. Biot maintains his former statement: "We believe we have demonstrated that the essential conditions determining the occurrence of this symptom are—a diminution of the excitability of the medulla—a cerebral phenomenon, having for its origin an anæmia progressive, and more or less profound, a circulatory phenomenon." He further adds that in all the cases he has met with, aortic regurgitation existed, with or without contraction of the orifice. Referring to a recent thesis by Dr. Cuffer, in which it is contended that the phenomenon is due to uræmia, he remarks that supposing uræmia to be due to spasm of the cerebral arteries, and therefore to anæmia of the brain, it would be explained by his view of the etiology of the condition; on the other hand, he affirms that he has many times seen it in cases which had not a trace of albumen in the urine.

F. A. MAHOMED.

WASSILJEW ON A CASE OF DISLOCATION OF THE SPLEEN.—(*Petersb. Med. Woch.*, 1878, No. 40.) The patient, a naval officer aged 36, had lived for several years in a place where malaria prevailed, and had there acquired intermittent supraorbital neuralgia accompanied by chills, and followed by heat and perspiration. Subsequently he became dyspeptic, and about fifteen months after the first symptoms of the disease had shown themselves, a tumour in the abdomen was accidentally discovered. It was not sensitive to pain, occupied the left superior part of

the abdomen, but sloped down towards the right side and could be felt about one-and-a-half inches beyond the linea alba. The surface was smooth and the tumour could be easily moved. During the attacks of fever it increased in size and became hard, but decreased and softened in the intervals. At first the patient did not feel much inconvenience from it, but gradually it began to cause him so much suffering, that he felt much depressed, and attacks set in which might almost be termed hysterical. His digestion was also much impaired; and last, not least, the urinary organs became affected; he had a strong desire to micturate, combined with a decrease in the quantity of urine which was passed, and pains in the region of the left urethra. At the present time the tumour has sunk more towards the right and downwards; measuring on the right and above the umbilicus about four inches, on the left three, and below two inches. Its shape is oval, with an incision on the lower border; it feels like a solid consistent mass with smooth edges, and is pretty freely movable, adhering only slightly to the abdominal walls. Only in one place, on the left, can crepitation be detected, and the tumour is tender on pressure. If palpated or faradized it grows notably smaller. There is no splenic dulness. The ninth and tenth intercostal space on the left are flatter than on the right; at every deep inspiration they are drawn deeper inwards than on the right. The colour of the blood is not so dark as it should be, although no increase of the white blood-corpuscles can be detected. The quantity of urine passed daily is 2500 centimètres; specific gravity 1012; no albumen; acid reaction; but it contains a considerable sediment of phosphates and urates. The entire left side is less sensitive to electric thermic and tactile stimuli than the right, especially the lower extremity; this difference decreases, however, gradually towards the upper part of the body, and is very slight in the superior extremity.

During the patient's stay in the hospital the spleen was treated with the faradic current and decreased in size. The patient also felt much better. On leaving the hospital he was advised to go on stimulating the spleen methodically by electricity, or the application of ice or cold water, combined with antifebrile medication, such as arsenic, quinine, and eucalyptus with iron.

HIRTZ ON PULMONARY EMPHYSEMA IN TUBERCULOSIS.—*Thèse de Paris*, 1871, *Gaz. Méd. de Paris*, No. 1.) There are three principal forms of emphysema. It is acute in acute and chronic tuberculosis; partly chronic in phthisis, accompanied by ulcerations; and universally chronic in latent tuberculosis. According to the author, defective nutrition is one of the most important causes of emphysema, and he quotes in support of this view several authorities on the subject; among others M. Granchet, who proved it by several examples of emphysema, which had followed atrophy and partial destruction of the lobules in chronic tuberculosis. This latter etiology is very important, because, as M. Hirtz observes, its development has always been noticed in tuberculous patients where there was predisposition to arthritis. It must, however, not be forgotten, that general chronic emphysema, whether it be primary or secondary, is always in a certain way antagonistic to tuberculosis. M. Hirtz has also several times observed a fever of a peculiar type, which was regularly repeated after four or five days.

The diagnostic symptoms of the disease, such as hæmoptysis, loss of flesh, etc., are well known. It must, however, always be borne in mind that it is

* The term "apnoea" is here used in the physiological sense, indicating a highly arterIALIZED state of the blood; it has not its ordinary clinical meaning.

very easy to err by mistaking latent emphysematous tuberculosis for constitutional emphysema. Great importance should also be attached to the characteristic respiration of emphysema.

NODEL ON A CASE OF ANEURISM OF THE ASCENDING AORTA: NECROPSY.—(*Lyon Méd.*, No. 51.) The patient, a dressmaker aged 50, was received into the Hotel-Dieu on the 6th of November. The following is the history of the case.

F. N., had always enjoyed good health up to July last, with the exception of the last two years, when she frequently suffered from headaches, violent colics, diarrhoea, especially in the summer time; she ascribed, however, these frequent indispositions to the cessation of the menses which took place at the same time, as she never was ill enough to give up work. There is no trace of syphilis, rheumatism, or alcoholism in her previous history. Last July, being overheated after a long walk, and covered with perspiration, she drank cold water, and was taken immediately afterwards with short shivering fits and a dry hacking cough, which has never left her since. Since last August the patient was subject to fits of dyspnoea, during which her face used to become livid; these attacks sometimes followed close upon a fit of coughing, while at other times they came unexpectedly. During the last three weeks dyspnoea supervened more frequently and lasted longer than before, from five to fifteen minutes. While the attack lasted the patient did not lose consciousness, but her face assumed an anxious expression; she breathed with difficulty; complained of a painful feeling of pressure across the temporal region; her face was livid; the extremities chilly, and covered with abundant perspiration. These attacks came to a sudden end, and were sometimes followed by a fit of coughing, during which the patient brought up very little expectorative matter.

Her speech was interrupted, she often began a sentence in a loud key and then lowered her voice to a whisper; her voice several times failed her entirely, but she did not seem to notice the difference between her present and past condition. The respiration was of a peculiar stridulous character, which could be heard at some distance, and gave rise to the supposition that a tumour must have been pressing on the trachea or the recurrent nerves. On closer inspection it was seen that the jugular and thoracic veins were enlarged, and that there was a slight prominence on the right anterior portion of the thorax. The latter rose and fell very little with the movement of the heart. There was no change noticed during inspiration in the infraclavicular and epigastric depressions. On the left arm, near the wrist, was a slight oedema, which had not been noticed previously by the patient. A diffused impulse was felt over the whole chest, which, however, did not coincide with the apex-beat, but was noticed equally well on both sides of the sternum.

Both lungs were equally resonant, with the exception of a slight dulness over the manubrium. Stridulous râles were heard on the back on auscultation, as well as a harsh tracheal sound. The râles were so loud in front that no other respiration sounds could be clearly heard besides them.

The heart and large vessels were difficult to auscultate on account of the above-mentioned loud breathing; but after several examinations, it was ascertained that both a systolic and diastolic murmur existed. It was, however, impossible to determine the exact spot where they are loudest, because they

seemed to spread all over the chest with equal distinctness. The pulse was perfectly normal, but the general state of the patient was very bad. The feeling of oppression was intense, and the attacks of dyspnoea succeeded each other quickly. Death ensued on November 9, after a more than usually violent attack.

Necropsy.—On removing the sternum, it was seen that all the thoracic organs had retained their normal position. Both lungs were emphysematous, and covered the heart and aorta, except in the parts which are on a level with the manubrium. A few indurated bodies of the size of a nut, which contained a little cheesy mater, were scattered here and there in the lungs. When the latter were taken out, a large aneurism of the aorta was discovered, which occupied the whole of its ascending portion, from its root upwards to the branching off of the left carotid. At the same time the aorta was dilated at the spot where its horizontal and ascending branches unite.

The pouch of the aneurism was rounded, but presented several irregularities on its surface, one of which seemed to reach as far as the brachio-cephalic venous trunk. Both this and the left carotid were cut open parallel to the upper part of the tumour; when it was found that they opened freely into the sac and were not compressed. The vena cava superior was pushed towards the right side, and slightly adherent to the pouch. The left brachio-cephalic trunk adhered firmly to the tumour, so that its posterior wall could not be separated from the sac; it followed, therefore, that it must have been squeezed and compressed by the latter. The right pneumogastric nerve ran down the tumour, touching it in some parts; the right recurrent nerve ran down in the midst of the thickened tissues which surrounded the aneurism, and it could only be dissected with difficulty.

The trachea adhered to the posterior part of the sac, and could not be separated from it; the cartilaginous rings of the trachea were much thinner and more flexible than they ought to be; they were not, however, malformed. The sac and its walls were surrounded, and covered by a great quantity of thickened tissues in which were enclosed a large number of blackish ganglions. The heart was slightly hypertrophic, especially the left ventricle, the cavity being enlarged and rounder than in a normal heart. The auriculo-ventricular valves were perfectly healthy, but the aortic valves were thickened and wrinkled, as occurs in insufficiency and stenosis of the aorta.

Remarks.—Most of the symptoms can be explained by the *post mortem* results. The emphysematous condition of the lungs had proved a serious obstacle to percussion in making the diagnosis. The dilatation of the jugular and thoracic veins was caused by the pressure of the aneurism on the vena cava superior; the oedema of the left arm was the result of the compression of the left brachio-cephalic venous trunk.

The pulse had remained regular throughout the whole time of the patient's illness, because the arteries which branch off from the upper part of the aorta opened into the sac, and therefore did not suffer from the pressure. The dyspnoea from which the patient suffered, the stimulation respiration sounds, and the ægophony which could be heard on the back along the upper four or five dorsal vertebra, is explained by the adhesion of the trachea to the sac, and the flexibility of the cartilaginous rings which are on a level with it.

The size of the aortic sac, the thickness of the surrounding tissues, and its proximity to the left ventricle, from which it was only separated by the aortic valves, show us clearly why blowing murmurs, which were

produced on a level with the root of the aorta, could be equally well heard on both sides of the sternum, while it was impossible to determine the spot where they were loudest. The only point which presents some difficulty is the stridulous respiration. Was it due to a direct pressure of the recurrent nerves, or, according to Dr. Krishaber's theory, to a reflex spasm of these nerves, which might have originated in the narrowness of the trachea? In the present case we might be led to suppose both causes, as the trachea was slightly compressed and the recurrent nerve proved, when put under the microscope, to be sclerotic. If the patient had not been so very weak this problem might have been solved by a laryngoscopic examination.

We see that all the lesions which were discovered at the necropsy corresponded with the symptoms that were observed at the bedside; the prominence of the right lateral portion of the thorax may either have been caused by the aneurism or the emphysematous lungs, or else been congenital. It will be seen from the above-mentioned facts, that it was not very easy to diagnose aneurism of the aorta; as a great number of the symptoms might have led to indicate rather a considerable hypertrophy of the heart. The regularity of the pulse and the absence of dulness in the anterior region of the thorax, were not conducive either to the diagnosis of aneurism. Two symptoms alone could be looked upon as characteristic of aneurism; the one was the loud stridulous respiration sounds, and the other both the blowing bruits, which could be heard over the whole of the anterior part of the thorax.

RAYMOND ON A CASE OF BRACHIAL MONOPLÉGIA.—At the meeting of the Société de Biologie, of January 25, M. Raymond stated the following case. A young man, aged 20, suddenly fell down in September last in an apoplectic fit. When he recovered consciousness he found that he could no longer make use of his right arm. He subsequently put himself under M. Raymond's treatment, who diagnosed the existence of brachial monoplegia, complicated with an absolute loss of sensibility. The application of various metals, magnets, and electricity had no effect on it, neither was M. Raymond able to modify the insensibility. The question is now what could be the reason of this phenomenon? Was it a cerebral or a medullary lesion? It is, however, well known that the distance between the centre of motility and that of sensibility of the upper extremity is considerable, and this fact makes the question still more complicated. There is no history of syphilis, and besides, immediately after the fall, no ecchymosis or symptoms of lesion of the brachial plexus could be found. The patient has been put under M. Vulpian's treatment, and it seems as if on the continuous application of electricity he began to recover gradually the sensibility of his arm.

CARROLL ON A CASE OF CONGENITAL MALFORMATION OF THE TRICUSPID VALVE.—Dr. Carroll gives the following account of this interesting case in the *New York Med. Record* for January 18. The patient, a married lady, aged 20, had suddenly been attacked with alarming cardiac disturbances. She had had previously an attack of remittent fever, and had suffered from rheumatic muscular pains, but there had been no acute rheumatism. The appearance of the patient was that of a person suffering from a complicated heart disease; bruits and murmurs were heard over all the valves, and the cardiac dulness was greatly increased. The loudest

bruit was heard over the apex; it was of a rasping, systolic nature. The patient died from syncope a few days later; necropsy of the heart only was allowed to be made. This organ was more than double its normal size, all its cavities were filled with soft black coagula; their walls were thin and pale; a small *ante-mortem* clot in right ventricle; fossa ovalis normal; the pulmonary orifice was narrowed, admitting barely the tip of the finger. The tricuspid valve presented a single apron-like valve, attached to the anterior half of the circumference of the orifice, the posterior half of which was a simple cartilaginous ridge, destitute of any rudiments of cusps. The aortic valves were insufficient, and devoid of corpora arantii. The mitral cusps were loaded with warty vegetations, and their edges thickly fringed. The "undefended space" was thin, but intact. Pulmonary artery small, aorta flaccid, great vessels otherwise normal. The lungs were not removed or incised; they were small, and their surface pale. The diaphragm was bulged upward by ascitic fluid. Obstruction of the pulmonary orifice is undoubtedly the commonest of congenital lesions, and in numerous examples has naturally entailed permanent persistence of the foramen ovale or solution of continuity in the intraventricular septum; but in the present case it appears probable that the foetal insufficiency of the tricuspid, greatly reducing the ventricular pressure, permitted the pulmonic opening to retain an infantile calibre. Of the lesions in the left heart, the aortic was presumably congenital, the mitral acquired, though evidently of long-past date. Aside from the pathological rarity of the case, it is matter for wonder that the patient should have lived as long as she did with a heart so grievously crippled, and that, too, without marked cardiac symptoms for several years. It is likely that the malarial anæmia and hepatic engorgement were the immediate causes of the rapid failure and dilatation of the heart.

PETER ON VENOUS PULSATATIONS IN CONSUMPTION.—Professor Peter has observed repeatedly in consumptive patients a peculiar phenomenon, which may be considered as being prognostically important. It is a form of venous pulse, which he has described in a paper addressed to the Société Clinique, and subsequently published in the *France Médicale*. He observed it for the first time in a woman who had reached the last stage of tuberculosis, the veins on the dorsal surface of her hand were bluish, hard, tortuous, and pulsated visibly. The pulsations were still more distinct if the wrist was compressed so as to hinder the venous circulation; they could, however, be better seen than felt, because the impulse of the venous wall does not beat against the finger in the same way as the arterial. The pulsations could, therefore, be counted with the eye, and were found to be synchronous with the arterial pulsations. M. Peter has since met with this phenomenon, though not each time under analogous circumstances. How was it caused? It was clear that it could not be the same thing as the ordinary venous pulse, because it did not exist in the heart, and also if the arm were compressed between the heart and the hand, it was exaggerated instead of being suppressed, as must inevitably have happened if the venous blood had come directly from the heart. The blood, therefore, came from the left heart, and not from the right. In order to explain this venous pulse, M. Peter thinks that the muscular fibres of the arteries in certain individuals who are half asphyxiated, as is

the case with those patients who are paralysed through the excess of carbonic acid which is contained in their blood, and in this way allow the fluid to enter directly into the capillaries without putting any obstacle to this continuous transfer of blood. The other agents which help to form this pulse are the frequency and energy of the pulsations of the heart. During the last moments of life, when the pulsations became feebler, the venous pulse disappears. This phenomenon, as we have said before, is rare, but when it exists it is very important, being a sign of quickly approaching death.

MAGNIN ON DIABETES COMPLICATED BY SYMMETRICAL GANGRENE OF THE SKIN OF THE PLANTAR REGION.—Dr. Magnin has published in the *Journal de Médecine*, for June, the following case. The patient, aged 64, who had always led a very active life, and enjoyed good health up to 1871, then began to suffer from diabetes, the urine containing 54 grammes of sugar per litre. He was treated for it, and did not suffer much till 1876, when, having taken cold, he was laid up with facial erysipelas; the urine at that time still contained a small amount of sugar. In 1877 he suffered from hæmoptysis and a bad cough. Cod-liver oil, alcohol, and tar were given, and the hæmoptysis decreased considerably, although it did not cease completely. The cough, however, could not be got rid of, and was very troublesome, especially in the morning. A few crepitating râles could be heard several weeks after the cough had first begun; they were considered as symptoms of a congestion of the lungs, and treated accordingly. The patient again improved in health, gained flesh, and, with the exception of an attack of intermittent fever, which was cured by arsenic and quinine, nothing abnormal was noticed during the year. In February 1878, the body of the patient, especially the chest and lumbar region were covered with large patches of pityriasis versicolor. This same eruption had occurred a year previously, and disappeared as it did this time, having been treated with sulphur ointment. In March the patient was greatly alarmed by observing that a symmetrical series of purplish spots of the size of a pea had spread over the planta of both feet, especially of the right one. This eruption was very tender on pressure, and gave great pain, not only when the patient attempted to walk, but also when he was resting. He described the pains, when lying down, to be of a lancinating kind, similar to an electric shock, equally rapid in their appearance and disappearance. The physician suspected diabetic gangrene, and treated the patient with local applications of quinine and arsenic, and internal administration of quinine and astringents, to counteract the frequent hæmorrhages from the nose and mouth. Absolute rest and a very strict regimen were also prescribed. The symptoms, however, grew worse; the patient could hardly walk with the pain, which radiated to the malleoli. He described it as like having a screw driven into his foot. The affection progressed rapidly, the spots on the right foot being of a purple hue, and the skin having a macerated appearance. As a last expedient, Dr. Magnin resolved to try local oxygen baths, without, however, having much faith in them. They were administered by drawing over the right leg and foot a rubber tube, into which oxygen was conducted. The patient took a bath of half-an-hour during the first day, but without experiencing any relief. The foot was very red, and perspired abundantly. The treatment was continued for twelve

days, after which time all traces of the purple spots and the pain had disappeared. The patient still suffers from diabetes, but is comparatively healthy, and able to attend to his business.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

- DUNCAN.**—Use of Solution of Perchloride of Iron as a Styptic and Caustic. (*Ed. Med. Journ.*, Vol. cclxxxiv, Feb. 1879.)
- DUMM.**—Value of Opium. Treatment in Inflammatory Affections of the Bowels. (*Cinc. Lancet and Clinic.*, Jan. 25, 1879.)
- DALLY.**—Treatment of Stiffness of the Joints. (*Journ. de Thérap.*, No. 3, Feb. 10, 1879.)
- COMEGYS.**—Cure of Sciatica and Violent Neuralgia by Hypod. Inj. of Ether. (*Cinc. Lanc.*, No. 1, Jan. 4, 1879.)
- WEISS.**—On the Therapeutic use of Propylamin. (*Med. Chir. Centr. Blatt*, Feb. 14, 1879.)
- HAMON.**—On Hæmospastic Treatment of Erysipelas. (*Revue de Thérap.*, No. 3, Feb. 1.)
- HEDINGER.**—Electric Mirror. (*Deutsche Med. Woch.*, Feb. 15, 1879.)
- HEWSON.**—Earth Treatment for the cure of Abdominal Tumours. (*Med. Bulletin*, No. 1, Jan. 1879.)
- ESCORIHUELE.**—Treatment of Incipient Phthisis with Human Milk. (*Genio. Medico-Quirurgico*, Jan. 22, 1879.)
- FRONMÜLLER.**—On the Hypodermic Injection of Scoparin and Spartein as Diuretics. (*Memorab.*, Vol. xxiii, No. 12, 1878.)
- FRÄNKEL.**—Treatment of Wounds of the Tongue. (*Ibid.*)
- FIEBER.**—Inhalation of Alkaline Waters in Affections of the Resp. Tracts. (*Med. Chir. Centr. Blatt*, No. 3, Jan. 1879.)
- BLACKWOOD.**—Pressure, a Cure for Hydrocele. (*Phil. Med. Times*, Vol. ix, Jan. 4, 1879.)
- BOUCHUT.**—Treatment of Chronic Albuminuria with Fuch-sine. (*Gaz. des Hôpitaux*, No. 9, Jan. 1879.)
- BRIDGES.**—Poisoning by Strychnine. (*Chic. Med. Journ.*, Jan. 1879.)
- BUSEY.**—Treatment of Vomiting in Pregnancy. (*Amer. Journ. of Med. Science*, No. cliii, Jan. 1879.)
- BUCQUOY.**—Treatment of Aneurism of the Ascending Aorta. (*Un. Méd.*, Feb. 18, 1879.)
- KERSCH.**—Treatment of Carbuncle. (*Memorabilien*, No. 12, Vol. xxiii, 1878.)
- KOVATSCHE.**—On the Use of Extract *Castaneæ Vesce* in Whooping-Cough. (*Ibid.*)
- KURZ.**—On the Effects of Iodoform. (*Allg. Med. Cent. Zeit.*, No. 8, Jan. 1879.)
- KACZOROWSKI.**—On Cold Air as an Antipyretic and Antiseptic. (*Deutsche Med. Woch.*, Feb. 1, 1879.)
- MACMEHAN.**—Acute Rheumatism and its Treatment. (*Cinc. Lancet and Clin.*, No. 1, Jan. 4, 1879.)
- MINICH.**—Traumatic Tetanus Cured by Potass and Chloral. (*Philad. Med. Times*, Vol. ix, Jan. 4, 1879.)
- MORTOT.**—Elimination of Antimony from the Human System. (*Amer. Journal of Med. Science*, No. cliii, Jan. 1879.)
- MARROH.**—The Action of Salicylate of Soda in Acute Rheumatism. (*Arch. Génér. de Méd.*, Feb. 1879.)
- LIDELL.**—Treatment of Dysentery. (*Amer. Journ. of the Med. Sciences*, No. cliii, Jan. 1879.)
- LATIL.**—Hypodermic Injection of Morphia in Case of Dyspnoea. (*France Méd.*, Feb. 5, 1879.)
- LETZERICH.**—Treatment of Diphtheria with Benzoate of Soda. (*Berl. Klin. Woch.*, No. 1, Feb. 12, 1879.)
- LETULLE.**—Hypodermic Injection of Ether. (*France Méd.*, No. 14, Feb. 15, 1879.)
- SIMONS.**—Hypodermic Use of Digitaline. (*Journ. de Thérap.*, No. 2, Jan. 25, 1879.)

- SCHMITZ.—A New Effect of Pilocarpine. (*Berl. Klin. Woch.*, No. 4, Jan. 27, 1879.)
- SULY.—Remarks on Duboisia. (*Cinc. Lancet*, No. 2, Jan. 11, 1879.)
- SIMMONS.—Sedative Action of Quinia on the Neck of the Bladder. (*Amer. Journ. of Med. Science*, No. clii, Jan. 1879.)
- SIEFFERMANN.—Treatment of Aneurism by Hydrotherapy. (*Gaz. Méd. de Strassbourg*, No. 2, Feb. 1, 1879.)
- SEXTON.—The Use of Calcium Sulphide in the Treatment of Inflammation of the External Auditory Meatus. (*Amer. Journ. of Otolaryngology*, No. 1, Vol. i, Feb. 1.)
- PRUCKMAYER.—Pumpkin as an Emetic. (*Med. Chir. Centr. Blatt.*, No. 3, Jan. 1879.)
- PETER.—Hygienic Treatment of Tuberculosis. (*Bullet. de Thérapeutique*, No. 2, Jan. 30.)
- NEFTL.—Treatment of Neuralgia. (*N. Y. Med. Record*, Feb. 1, 1879.)
- TUCKER.—Tincture of Thapsus. (*Chic. Med. Journal*, Jan. 1879.)

BRAITHEWAITE ON THE DISCONTINUANCE OF HYPODERMIC INJECTIONS OF MORPHIA.—Dr. James Braithewaite, in the *Lancet*, December 1878, p. 874, reports the case of a lady who, after having reached a daily dose of morphia equal to fourteen grains, decided to discontinue its use. This she gradually accomplished, until at the end of two years she was taking only three quarters of a grain daily. At this period, becoming pregnant, she could not proceed further, and at the end of six months a large abscess formed in the thigh, due to an injection, and this was followed by a severe attack of erysipelas, which was only checked by liberal doses of morphia, hypodermically. Labour came on July 6, 1877, when the erysipelas had barely ceased. The quantity of morphia then used daily was eight grains. At the end of a fortnight, at her own urgent request, no more morphia was given. February 20 was the date of the last injection. Constant and incessant vomiting came on the next day, together with purging. The stomach rejected everything till the fifth day, when a morsel of chicken was retained for half-an-hour, and then rejected. On the ninth day, her life appeared in such imminent danger that it was strongly urged upon her to have a morphia injection, but to this she made a heroic resistance, preferring death to returning to the morphia. On the tenth day small quantities of food were retained for a few hours, and from this date a gradually progressive improvement set in. The diarrhoea still continued, and very small quantities of food were borne at long intervals. On April 16 an attack of erysipelas again set in, bringing with it a return of all the old sickness and diarrhoea, which, after lasting ten days, gradually subsided, leaving the patient with chronic diarrhoea and great weakness at the date of the communication, December 1878. It is interesting to note that the large doses of morphia had no effect upon the child, which was lively before birth, and is now perfectly strong and healthy.

RICHARD NEALE, M.D.

SLIPPERY ELM-BARK FOR TAPEWORM.—Dr. C. Hixon, in the *Ohio Medical Recorder*, says: "I was consulted by Mr. J., who at various times had passed large quantities of tape-worm. I prescribed for him the ethereal oil of male fern, also koussou, kamala, and pumpkin seed without any result. I then prescribed fresh elm-bark *ad libitum*, of which for several days he consumed large quantities. I then gave him castor oil and turpentine emulsion, when

fifty-three feet of tape-worm were expelled, including the head. It was enveloped in the great mass of apparently undigested bark, which the cathartic brought away. Becoming entangled in it, the worm seems to have lost its grip, and never again regained it, and was hurried along by the increased peristaltic action."

ACONITIA, ITS VALUE IN TRIGEMINAL NEURALGIA.—Dr. E. C. Seguin (*New York Medical Journal*, December 1878) reports seven cases of trigeminal neuralgia treated by aconitia. From this experience he concludes: 1. The susceptibility of individuals to Duquesnel's aconitia varies enormously, one individual in the series having been severely affected by 1-200th of a grain, while another tolerated readily 1-84th every three hours. On the average, distinct physiological and therapeutical effects were obtained by giving 1-100th of a grain three times a day. 2. Out of six cases of severe trigeminal neuralgia, one, probably a reflex neuralgia from a decayed tooth, was not at all benefited. Three cases, epileptiform in character, were slightly or only temporarily relieved; two cases were cured. One of these had existed for seven years, with an interruption of twenty months, procured by resection of the affected nerve. Thus, while aconitia sometimes fails, we must regard it as one of the most powerful and best agents for relieving and curing trigeminal neuralgia. 3. We do not, as yet, know the forms of trigeminal neuralgia most influenced by aconitia.

WAGNER ON THE TREATMENT OF CONGENITAL HYDROCELE.—The author advises, in No. 30 of the *Deutsche Med. Woch.*, 1878, the aspiration of the fluid by means of Pravaz's veterinary syringe, and the injection of a small quantity of a solution of 1 per cent. carbolic acid into the sac, allowing it to remain.

VERGELY ON THE USE OF CHLOROFORM IN HEART DISEASE.—It is well known that the opinions of medical men are divided with regard to the use of chloroform in cardiac affections. Some consider this class of diseases as a counterindication, while others admit that chloroform may prove very useful in certain cases. M. Vergely (*Soc. Méd.*, Jan. 10) particularly draws attention to the latter. According to him—1. Disease of the heart is not to be considered as a counterindication in the use of anæsthetics; 2. Chloroform acts as a sedative in the said affections; 3. It ought, in such cases, to be administered with great care. Several cases supporting his hypothesis are cited. In one case, where the patient suffered from considerable palpitations, chloroform was given successfully during two months. In another case, where there existed palpitations, dyspnoea, caused by insufficiency and stricture of the mitral valve, much relief was experienced from chloroform inhalations, together with hypodermic injections of morphia. In a third case, with double lesion of the aortic valve, no relief was experienced from chloroform. M. Vergely thinks, therefore, that chloroform may be administered without danger in angina pectoris and certain cardiac affections in which dyspnoea and violent palpitations are present. Some timid attempts have already been made to treat the aforesaid diseases with chloroform, but no methodical plan of treatment has as yet been adopted.

ROKITANSKY ON THE TREATMENT OF AGUE BY PILOCARPINE.—The author's account of the case is published in the *Wiener Med. Jahrbücher*, page 259,

FERRIS & COMPY'S ANODYNE AMYL COLLOID.

(Secured by their Registered Trade Mark.)

STRONGLY recommended as a most valuable topical application in cases of Neuralgia, Sciatica, Lumbago, and all Muscular Pains. It is prepared with Hydride of Amyl, Aconitia, Veratria, and Ethereal Collodion. The Hydride of Amyl, by its rapid volatilization, often produces immediately the desired result; but should the pain continue, the alkaloids can be brought into increased activity by applying moist Spongio Piline over the Collodion film. This preparation has now been in use for a sufficient time to test its value, and has, in the hands of a large number of medical men, given the most marked and satisfactory results in Neuralgia and Muscular Rheumatism.

TREATMENT OF NEURALGIA.—Letter from Mr. METCALF JOHNSON.

[To the Editor of "THE MEDICAL TIMES & GAZETTE".]

"SIR,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is to my mind so likely to afford relief to suffering humanity that I do not feel justified in withholding it. The treatment consists in painting the part affected with 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelsiminum and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

"J. P. called one morning, suffering from facial Neuralgia in all the four points of the surface development of the facial nerves. I painted his face over the four spots, and before the liquid was dry his pain was gone. It returned the next day, but was again relieved by the remedy, the relief lasting for twenty-four hours.

"I met A. B. in the street, who was complaining of an obstinate Neuralgia, which had resisted several of the usual remedies. A trial of the treatment here indicated was attended with immediate relief.

"It has been tried, I believe, at my suggestion by one member at least of the family of three of my professional brethren.

"A patient suffering from podagric Neuralgia of the forearm finds such relief that frequent resort is had at night to the use of the painting with the ANODYNE COLLOID.

"A few days since, a lady suffering from that painful affection called 'soft teeth', caused by caries, and in whose case considerable swelling was apparent, found immediate and permanent relief by painting the cheek with the remedy.

"A clergyman, of a very high nervous organization, and in whom, as is often the case, considerable strength of mental power is developed, described the relief which was obtained by the use of both the remedies as 'like magic'. In several other instances, of which I have kept no record, relief has been obtained by the use of one or both remedies.

"Hoping this will induce more of your readers to try the remedies suggested, I leave the case in your hands, merely adding that the ANODYNE AMYL COLLOID professes to be a solution of Aconitine and Veratrine with Hydride of Amyl in a medium of Collodion; but the proportions are not stated. The Tinctures of Gelsiminum and Guarana are in all probability better known to your readers. I have, at the request of Messrs. FERRIS and Co., already given them my testimony to the value of their preparation, in a letter addressed to them a few weeks ago. If you will kindly insert these few remarks in your paper, I think you will oblige many of your subscribers, as you will also,

"LANCASTER, May, 1878."

"Yours, etc.,

METCALF JOHNSON."

From "THE MEDICAL RECORD", London, May 15th, 1878.

"We have submitted to trial the 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., of Bristol. It is prepared with Hydride of Amyl, holding in solution Aconitia and Veratria, and combined with Ethereal Collodion. We have tried it in Neuralgia and Muscular Pains with marked benefit.

"The Amyl rapidly volatilizes, leaving a Collodion film on the skin.

"The intensity of the action of the alkaloids may be increased by the subsequent application of spongio piline moistened with warm water."

FERRIS & CO'S ANODYNE AMYL COLLOID,

In 1 oz., 2 oz., and 4 oz. Bottles, 1s. 6d. per oz.; in 8 oz. and 16 oz. Bottles, 1s. 3d. per oz.

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Manufacturing Chemists, & Wholesale & Export Druggists,
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 Chest Braces
 Chiropodist's Instruments
 Crutches
 Cupping Instruments
 Dissection Instruments
 Drainage Tubes
 Drainage Trocars
 Ear Instruments
 Ecraseurs

Elastic Appliances
 Elastic Knee-Caps
 Elastic Leggings
 Elastic Socks
 Elastic Stockings
 Elastic Syringes
 Enema Apparatus
 Endoscopes
 Eye Instruments
 Fracture Apparatus
 Fracture Cradles
 Fracture Frames
 Gynæcological Instruments
 Hernia Instruments
 India-Rubber Goods :—
 Beds
 Cushions
 Ice-Bags
 Pillows
 Sheets
 Urinals
 Inhalers
 Lithotomy Instruments
 Lithotripsy Instruments
 Minor Operation Instruments
 Microscopes
 Lancets :—
 Bleeding
 Vaccine
 Mouth Instruments
 Necrosis Instruments
 Nose Instruments
 Obstetric Instruments
 Ovariectomy Instruments
 Orthopædic Instruments
 Pessaries

Pin Legs
 Pneumatic Apparatus
 Pleximeters and Instruments
 for Diagnoses and General
 Research
 Pocket Dressing Instruments
 Post-Mortem Instruments
 Rectum Instruments
 Resection Instruments
 Sayre's Instruments, etc. :—
 Bandages
 Hip Splint
 Tripod
 Suspension Apparatus
 Woollen Shirts
 Skin Grafters
 Spirometers
 Speculums
 Tooth Forceps
 Tooth Instruments :—
 Excavating
 Extracting
 Scaling
 Stopping
 Trocars :—
 Abdominal
 Bladder
 Exploring
 Hydrocele
 Ovariectomy
 Trusses
 Urinals
 Urinary Test Cases
 Urinary Test Stands
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7 to 12, ALDERSGATE STREET, LONDON, E.C.

1878. The patient, a young man aged 22, who was suffering from intermittens quartana, and had been treated during the last twenty-one months for tertiana and quotidiana with quinine, had 16 centigrammes of pilocarpine injected hypodermically. The strength of the solution was two per cent., and it was given two hours before the attack, which was much shorter and slighter than it had ever been before. The next attack due was altogether prevented, but in three days very slight prodromi of a new attack appeared about an hour before their usual time. A fresh injection of two centigrammes was then made, the attack passed away, and there were no more symptoms of fever in the next fortnight. The splenic tumour had also become much smaller, and the patient was dismissed as having entirely recovered.

SYMES ON THYMOL AND THYMOL-CAMPHOR.—Dr. Symes, in the *Pharmaceutical Journal* of January 10, publishes the results of his researches on the combination of thymol, chloral-hydrate, and camphor, acting as an antiseptic. The two former drugs are rubbed together in a mortar, and an equal quantity of camphor added, which liquefies the whole, and produces a powerful antiseptic. Its virtues were immediately tested on some urine containing pus, and which was already beginning to decompose. Two drops of the compound being added to it, the putrefaction was arrested. If thymol and camphor alone are rubbed together, they also become liquid, and this is a convenient form from which to prepare the ointment. Thymol-camphor can be mixed in almost any proportion with vaseline, *ung. petrolei*, or ozokerine, and the thymol will not separate, as in crystals, when thymol alone is used. A solution of thymol in water (1 in 1000) is sufficiently strong for the spray in surgical operations. If used for the throat, milk and glacial acid will be found to be good solvents for it.

LÖWENSTAMM ON A CASE OF TRAUMATIC RUPTURE OF THE SPLEEN. (*Med. Chir. Centralbl.*, January 31, 1879.)—The patient, a strong-built woman, aged 38, had been living for some time previous in a place where malaria reigned, and suffered for a long time from often repeated attacks of tertian fever. She then left the place, but was still subject to frequent attacks of malaria varying in type, looked very pale, and complained continually of a pain in the left side. One day, when working in a brick-kiln, a large mass of earth suddenly detached itself, and, falling upon her, buried her. She fell on her right side, and the whole weight of the earth rested upon her left side. She was immediately exhumed, but complained of a severe pain in the left hypogastric region, had nausea, and vomited even the water which had been given her to drink. Her pulse was small and frequent, her abdomen much enlarged, but she had not lost consciousness. She was immediately put to bed, and fomentations of ice-water applied, together with soothing remedies, but with no result. Her abdomen was more and more inflated, and the increasing pallor and low temperature of the body, as well as the collapse, made it certain that both the spleen and the capsula of the spleen had burst, thereby allowing the blood to escape freely into the abdominal cavity. The patient lived for two days after the accident, being treated with opium and hæmostatics. She died of peritonitis and exhaustion. At the necropsy it was found that the spleen had burst asunder almost in the middle; there was also a slit of about one inch in the cap-

sula, and a coagulum weighing about five pounds lay in the abdominal cavity. The latter presented all the characteristic changes of peritonitis. The spleen was hypertrophic, soft, and weighed 1 lb.

HUCHARD ON THE RAPID CURE OF ASTHMATIC ATTACKS BY HYPODERMIC INJECTIONS OF MORPHIA, AND ON THE EUPNOEIC ACTION OF THE LATTER.—Although the sedative effect produced by hypodermic injections of morphia in cases of asthmatic attacks, or of certain paroxysms of dyspnoea, has been well known for a long time, yet most practitioners prefer to employ preparations of belladonna or datura, because they do not tend to diminish the bronchial secretions. M. Huchard, having studied carefully the effects of, and the objections to, the use of morphia in asthma, has come to the following conclusions. In the most intense attacks of asthma a hypodermic injection of morphia will cause immediate relief. He even goes so far as to affirm that if these injections are repeated, they will, by cutting short each attack at its beginning, succeed in rescuing the economy from this spasmodic habit, and thereby cure the disease. After giving a short historical sketch of his subject, M. Huchard proceeds to study carefully the different forms under which asthma can show itself; he compares pathological facts with the results which have been obtained from the therapeutical study of preparations of morphia, and in this way succeeds in explaining theoretically facts which he had learned empirically from clinical experience.

In another part of his work, M. Huchard enters fully into the importance of administering morphia preparations hypodermically in other cases of dyspnoea, such as cardiac asthma or uræmic dyspnoea. In a third chapter he dwells upon the different results produced by morphia preparations, according to whether they are given hypodermically or by the mouth. He sums up his exhaustive and interesting study by the following words: Morphia makes one breathe freely.

SIMONIN ON THE PREVENTION OF FATAL ACCIDENTS FROM USING ANÆSTHETICS.—(*Revue Méd. de l'Est*, 5 année, t. x, No. 9, p. 261.) The following three observations may be considered as very important, if attended to. 1. Progressive peripheric insensibility, especially in the temporal region and the cornea. 2. The condition of the muscles and the jaws; the former must be in a complete state of relaxation, and the jaws closed. The adductor muscles of the lower jaw, therefore, form an exception to the rule, by being in a state of trismus. 3. The state of the pupil, which must be contracted, while the respiration becomes more normal, having been much quickened during the stage of excitement. All these phenomena are very important; they are synchronous, and must be carefully observed, as well as respiration and circulation. If the three symptoms cited should not appear coincidently, they must be carefully watched for in various stages of the anæsthesia, because they are sure to appear at a given moment.

ALCOHOL AS AN ANTIDOTE TO STRYCHNINE.—M. Hameau, in the *Gazette Médicale de Bordeaux*, relates several experiments made by him with a view to ascertain the effect of alcohol given hypodermically in cases of poisoning with any salt of strychnine. A rabbit, which had been apparently dead five minutes, had a hypodermic injection of one gramme of alcohol. In less than three minutes the

extremities were relaxed, and the convulsions were much feebler, and occurred at longer intervals. In twenty-five minutes the animal was on its feet, had no more convulsions, and could eat. The next day it was perfectly well. The same experiment was repeated several times with the same success, while other rabbits which were poisoned with strychnine, and not treated with alcohol, died. The same quantity of alcohol being injected into a rabbit which had not been treated with strychnine, the animal fell into a sort of stupor, and died the next day.

The question is, whether alcohol may be considered as an antidote of the poison itself, or as a powerful sedative, the effect of which on the cerebro-spinal system is diametrically opposed to the action of strychnine, and would, therefore, be found useful in nervous conditions similar to those produced by the poison. It has, accordingly been used in a case of spontaneous and traumatic tetanus, but without any effect. It is only fair to add that the patient was dying.

EISENSTEIN ON THE TREATMENT OF DOLOR FOTHERGILLI BY NITRATE OF AMYL.—The patient, a man aged 60, had never been ill until about four years before he entered the hospital (*Bericht des Wiedener k. k. Krankenhauses*, 1878), when he began to suffer from pains in the right side of his face. The pain came on at first after long intervals, but later on daily; sometimes the patient would have as many as eight paroxysms a day, and as many during the night. He consequently felt very weak and low, and his mental capacities had suffered considerably. During some months he had had daily injections of morphia, which, however, only relieved him for a short time, when the paroxysm would again come on as before. Dry heat occasionally calmed the pains, but the application of ice or cold bandages only increased their intensity. The slightest attempt to touch the branches of the trifacial nerve, which spring from the right foramen infraorbitale and mentale, brought on agonies of pain, during which the muscles of the affected part of the face twitched spasmodically. In the intervals, when the patient was free from pain, the muscles of his lower and upper extremities were in a constant state of tremor. The vital organs were perfectly normal. The patient was treated successively and unsuccessfully with quinine and liq. arsenic. Fowleri. Chloroform inhalations were then tried, and proved successful, in so far as they relieved the patient during the paroxysm, but never cut it short unless kept up till perfect loss of consciousness. As the patient objected to having the nerve resected, inhalations of nitrite of amyl were then resorted to; one drop would cut short the most violent paroxysm. The remedy having been continued for a certain time, the intervals between the paroxysms grew longer, and the patient slept well, gained flesh, and asserted that he had never felt better in his life. As an experiment, tinctura gelsemii was administered during some time in doses of ten drops every two hours, no other medicine being given at the same time. The patient felt pretty well during ten days, after which the tincture gels. proved ineffective, and he again suffered so much that the former treatment had to be again resorted to, and continued for several weeks. The paroxysms would occasionally be absent altogether for a week, and then, if they came on at all, last a very short time. He was then discharged from the hospital, and presented himself a month later, stating that he was well satisfied

with the results of his treatment. The paroxysms came on occasionally, but very seldom, and never lasted long.

ARCHAMBAULT ON THE EFFECTS OF SALICYLATE OF SODA IN CASES OF ARTICULAR RHEUMATISM IN INFANTS.—Rheumatism in children is not only more frequent than in adults; it also assumes a more serious form because complications from the bowels and the heart are more apt to arise. In children the heart is affected as easily as a joint, and this often accounts for cardiac affections which are met with in the adult, when the patient does not remember having had rheumatism in his childhood. M. Archambault in his communication to the Société de Thérapeutique (February 12, 1879) speaking on the therapeutic action of salicylate of soda in this affection in children, said that it ought not to be considered as a specific remedy against rheumatism, as quinine is against fever, but it presents a great analogy with the latter, and, what is more, it is quite inoffensive. Children take it well, they seldom vomit it, and its use is rarely attended by the disagreeable sensations of giddiness and ringing in the ears, of which adults often complain. Perhaps this comparative immunity may be attributed to considerable rapidity of elimination in children; salicylate of soda can be detected in the urine from a quarter of an hour to twenty minutes after it has been taken. It is true also that it has occasionally been traced sixty hours after the medicine had been absorbed, but as the quantity was exceedingly small it may be said that in children salicylate of soda does not accumulate. M. Archambault prescribes this drug for children from 5 to 10 years after the following formula: rum, 20 grammes; syrup of lemon, 40 grammes; salicylate of soda, 6 grammes; to be taken in three intervals during twenty-four hours. After the third dose the patient generally feels much better, and after the fourth the pains have almost entirely ceased. This, however, is not the only effect of the drug; it also lowers the temperature, and causes the painful swelling of the joints to disappear. The most important property of the salicylate of soda, however, is that it actually prevents all complications which generally arise through affections of the heart. M. Archambault has used the drug in monoarticular and polyarticular rheumatism, and in treating cases of torticollis arising from the same source, and has always found it answer admirably well. As regards the duration of the treatment, M. Archambault gives the drug in doses of 6 grammes daily, for three days consecutively, even if the pain should have ceased the second day; then he waits for some time. If the pains should recur, the treatment is repeated, and so on, but it is seldom necessary to give a third dose.

WISS ON THE INTERNAL AND EXTERNAL USE OF BALSUM OF PERU.—(*Deut. Zeitsch. für Prak. Med.*, No. 34, 1879.) The author gives the balsam internally in the form of an emulsion, according to the following prescription. B. Bals. Peruv., 8 grammes; muc. gum arabic, 2 grammes; vitellum ovi unius; aq. dest. q. s. ut f. emulsio, 210 grammes; liq. ligam., 30 grammes. If used externally, the balsam is poured into the wounds undiluted, and the bandages used for dressing them are soaked in it. If there should be a considerable flow of pus, they must be changed several times daily. In a case of chronic catarrh of the bronchi, where the author prescribed bals. copaivæ internally, the sputa im-

proved, but it had no effect either upon the cough or the expectoration. On giving bals. Peruv., the catarrh disappeared, even the cough which had lasted for several years, and the patients remained well for a long time afterwards. The drug has failed to prove successful in tuberculosis. The author has applied the ointment externally in different kinds of wounds, and in every case he has found it a most useful remedy; it promotes the healing of the wound by first intention, diminishes suppuration, calms pain, and is a decided antiseptic. Upon first coming in contact with the wound it causes a burning sensation of pain, which, however, does not last long. All symptoms of inflammation also cease.

SUMMERLIN ON DAMIANA (*Turnera Aphrodisiaca*).—Dr. Summerlin (*Virginia Med. Monthly*), of Sunhill, Georgia, states that having seen this drug recommended for its aphrodisiac virtues, he determined to give it a trial in the case of a patient, aged 27, who applied to him for treatment. The patient stated that a few years previously his right testicle became inflamed, compelling him to remain at home several days. After the swelling left, the testes became atrophied and tender to the touch. He had previously practised onanism. The sexual desire had nearly left him. On examination, the left testis was found to be soft and very small, the other normal. He was placed upon the usual treatment—nourishing food, nux vomica, iron, and cantharides, but he did not appear to improve. He was then ordered to take one drachm of fluid extract of damiana three times a day. In a short time the testis began to enlarge and lose its sensitiveness. In the course of a month it had regained its normal size, and its functional activity was restored.

MORITZ ON THE USE OF THE CARBOLIC SPRAY IN CATARRHAL AFFECTIONS.—The author has published in No. 1, 1879, of the *St. Petersburg Med. Week.* an article on the antiscatarrhal properties of carbolic acid, of which we give the following abstract. 1. In colds, fresh catarrhs, *i.e.*, when the first symptoms show themselves, such as repeated sneezing, running eyes, a disagreeable pricking feeling in the throat, nose, and eyes, and so forth, it will suffice, according to the author, to inhale a spray of a 2 per cent. solution to cut short the cold. The atomiser is held at about 1½ foot distance from the face, and the patient breathes through the nose five to six times. This operation is repeated every half-hour, till the symptoms have disappeared. Fresh exposure to the cold may bring them on again, but then all we have to do is to repeat the proceedings. 2. In catarrhal complications of measles, the effect of the carbolic spray seems most powerful. The author does not believe that the spray could cut short the measles, but he has derived great advantage from saturating the atmosphere with it. This is done in the following way. Several towels are dipped in a 3 per cent. solution of carbolic acid and hung over the bedsteads of the patients. This must be repeated four or five times daily, and specially during the night. Once or twice during the day the patients must be carried, with their beds, into the next room, for the sake of giving the bedroom a thorough airing. This is continued till the rash has come out fully, and the temperature has begun to sink. When the catarrh is a little better, about the fifth or sixth day of the illness, it is advisable to stop the carbolicization. 3. Whooping-cough. It is said that inhalations of carbolic acid

have proved useful; the author, however, gives the preference to disinfecting the air as above with cloths and towels. It seems as if the course of the cough were shortened by it. The only drawback is the occasional occurrence of pneumonia, which, however, has never been known to end fatally. 4. Infectious spring catarrhs. They must be stopped from the very beginning, with the inhalations. Later on the air must be carbolicised during the night, and occasionally during the day. 5. Asthma following an acute or chronic catarrh of the bronchi. Both the spray, and the spreading of a cloth soaked in the carbolic acid solution over the bedstead at night have often given the most surprising results. 6. Subacute catarrhs of the larynx and pharynx, combined with nightly attacks of coughing, such as often occur in children. Cloths hung up at night. 7. Chronic catarrh of the bronchi, with profuse secretion, generally gets better in an atmosphere saturated with carbolic acid, as well as after inhaling it. This treatment has proved unsuccessful in acute catarrhs of the bronchi, pharynx, and fauces, where the parts are very red; the secretion is profuse, and the cough very violent, such as often occurs in stout elderly men, in the catarrh which often complicates phthisis, and in the spasmodic cough of hysterical women. In the latter cases the carbolic acid is apt to cause violent headache.

DUJARDIN-BEAUMETZ ON THE TREATMENT OF ALBUMINURIA BY THE INHALATION OF OXYGEN.—At the meeting on January 8 of the Société de Thérapeutique, M. Dujardin-Beaumetz read a paper on a case of albuminuria in which the albumen had entirely and rapidly disappeared after some inhalations of oxygen. The patient had reached the last stage of the disease; every diuretic had been employed, but without success, when inhalations of oxygen were resorted to. The albumen disappeared within the following twenty-four hours, and had not reappeared since. Twelve days had elapsed, and the author wished to know if similar cases had been observed before, and if his treatment might be considered as attended by permanent success.

A discussion having been raised on the subject, it was remarked that similar cases had been known to occur, only the effect of the cure had never been permanent, the albumen generally reappearing after two or more months.

COUTISSON ON CANTHARIDINE.—(*Thèse de Paris*, 1878).—If a mixture consisting of 10 centigrammes of cantharidine, dissolved in 10 grammes of chloroform, is painted on the skin, congestion of the part follows rapidly from a quarter-of-an-hour to half-an-hour, and according to the epidermis being more or less resistant, blisters form in five or six hours. They increase during six or eight hours or more, then remain stationary for from twenty-four to thirty-six hours, and are finally reabsorbed. The sensation experienced is not so much one of pain as of heat or of burning; this absence of severe pain makes cantharidine one of the least painful vesicants. Another peculiarity of this drug is the tendency to promote the excretion of a great quantity of albumen. Dr. Laboulbène has utilised the irritant properties of cantharidine for removing nævi, which disappear under its use, without leaving any traces beyond a slight scar.

SAPOLINI ON THE CURE OF DOG-BITE BY ASPIRATION.—The author publishes in the *Gaz. Med. Ital. Lomb.*, February 1879, the following treatment

for hydrophobia. Immediately after the patient has been bitten, the virus must be repeatedly aspirated, by means of a syringe, alternating with frequent injections of tepid water into the wound. He asserts that in this way the wound is completely cleansed from the poison. During the period of incubation the wounds must be kept open, frequently by aspiration, and some antiseptic fluid injected, such as salicylic acid, etc. The patient must also take salicylic acid internally. During the period of hydrophobia another powerful poison must be injected hypodermically, *e.g.*, the poison of the viper, or some other venomous serpent.

STARCKE ON CHLORAL HYDRATE ENEMATA IN AFFECTIONS OF THE STOMACH.—The author (*Berl. Klin. Woch.*, August 1878) had been suffering from chronic catarrh of the stomach, the worst symptom of which was sleeplessness, to such an extent that the patient hardly slept one hour out of the twenty-four. His colleagues advised him to try chloral, but as the state of irritation his stomach was in would not allow him to take it *per os*, he resolved to administer it to himself *per rectum*. An aqueous solution of 5 per cent. of chloral was warmed to 35°, and 10 grammes of this solution were injected. A few minutes later on an agreeable sensation of warmth spread over the body, and the patient fell asleep and slept soundly for five hours. The author continued with his treatment for five months, using during this time about 120 grammes of chloral; after the few first doses he improved to a marked extent; his appetite came back, and his meals were no longer followed by headaches and nausea. The author strongly advocates the use of chloral hydrate in the form of enemata in cases of gastric irritation; the point of the syringe must be well oiled, and introduced beyond the sphincter; the fluid ought never to be injected cold, but always warmed to the temperature of the body. The dose given *per rectum* must be smaller than it would be *per os*; fifty centigrammes are sufficient.

HOW TO MAKE TROUSSEAU'S CATAPLASM.—(*Lyon Méd.*, January 26, 1879.)—Dr. Dieulafoy, who has frequently applied this cataplasm with much success, gives the following directions for its preparation. Take, according to the size of the affected articulation, 3 or 4 lbs. of bread—4 lbs. are sufficient for the knee-joint, 2 lbs. for the wrist. Cut it into pieces, removing carefully the hard portions of the crust, and soak the bread for about a quarter-of-an-hour in water. It is then taken out, tied into a cloth, and squeezed to express a part of the water absorbed, so that the bread remains moist, but not too wet. It is then put into a steam bath, and allowed to remain there for three hours, when it becomes like dry paste, which is softened by the addition of camphorated alcohol. This dough is then kneaded for about five minutes, till it is of the consistence of plum-pudding. This is the most delicate point in the making of the cataplasm, because if it is too soft it will give way, and spread out under the pressure of the dressing, and if it is too hard it is apt to crumble and break into small pieces, which might injure the skin. The degree of consistency of the cataplasm must, therefore, be very carefully supervised, because unless one is in the habit of making it, there is always a tendency to make it too soft, either because the bread has not been squeezed sufficiently before having been put into the steam bath, or because too large a quantity of camphorated alcohol has been poured upon it.

The dough, having thus been prepared, it is spread on a linen bandage in the shape of a rectangle, large enough to cover the whole of the joint. The poultice must be at least $\frac{1}{4}$ of an inch thick at the edges, in order to prevent the thinner portions from drying too quickly.

The surface of the cataplasm is then painted with the following liquid mixture: camphor, 7 grammes; extr. op., 5 grammes; extr. bellad., 5 grammes; alcohol, q. s.

This being done, it is applied by being put over the affected joint, and covered by non-evaporant covering. The whole is then firmly fixed by means of a long flannel bandage, over which is placed a linen one of the same length. These bandages vary in length, according to the size of the joint, and, consequently, to the size of the poultice. The joint having been thus bandaged, it must remain perfectly immovable; the compression, although firm, must not cause the underlying parts to become oedematous; this may be prevented, however, by bandaging them also. In order to prevent the layers of the bandages from slipping, they must be sewn to each other. The cataplasm then remains in the same position for eight or ten days, after which time it is removed, and found to be as fresh and moist as if it had been just applied; it still smells of camphor, and does not present the least trace of mould. The skin which has long remained in contact with it is perfectly healthy, unless the cataplasm should have been too thin at the edges, thereby either drying too soon, or giving way under the pressure of the bandage, and causing the skin to excoriate. This is Trousseau's cataplasm. At first sight it may appear too expensive for poorer patients, because the cost of the material amounts to from two and sixpence to five shillings, if the appliance is made in a hospital. If, however, we consider that, the expense having been once incurred, the cataplasm remains in its place for at least eight days, during which time no other medicine is given, we are soon convinced that it is even cheaper than most other appliances. The indications for the use of this cataplasm are so obvious that they need not be repeated here. In every kind of chronic or subacute inflammations of the joints, when other means, such as blisters and cauterisation, have proved unsuccessful, and even in the first instance Trousseau's cataplasm will be found most useful and advantageous.

LOEDERICH ON THE USE OF COLLODION IN SEA-SICKNESS.—M. Loederich has published in the *Année Médicale de Caen*, January 1879, an account of this remedy, which he asserts to have proved successful in every case. It consists of a mixture of collodion and castor-oil, which is painted with a brush three times successively across the epigastric region shortly before embarking. If the voyage should last several days it might be advisable to take a supply of collodion in case a part of the application should be rubbed off by the clothing. Two cases are quoted in which the remedy was applied with great success. One is that of an American lady who used to suffer dreadfully every time she crossed the sea. She tried this application, and went through the voyage with hardly any suffering, except a slight feeling of giddiness, the sea being very rough, and most of the passengers ill.

SURGERY.

RECENT PAPERS.

- DELORE.—Treatment of Erectile Tumours. (*Lyon Med.*, No. 5, Feb. 2.)
- NEPVEU.—Scirrhus of the Testicle. (*Arch. Gen. de Méd.*, Feb. 1879.)
- RANSCHOFF.—Tetanus cured by Nerve-stretching. (*Cinc. Lancet and Clinic*, No. 3, Jan. 18, 1879.)
- ANDREWS.—Is the Hypodermic Injection of Piles Dangerous? (*Chic. Med. Journ.*, Jan. 1879.)
- WARDNER.—One hundred and sixty-three Cases of Fracture of the Neck of the Femur. (*Chic. Med. Journal*, No. 1, Vol. xxxviii, Jan. 1879.)
- WAREHAM.—Stricture of Urethra, Enlargement of the Prostate. (*Ibid.*)
- WINIWARTER.—Bronchotomy. (*Med. Chir. Centrbl.*, No. 3, Jan. 1879.)
- WEIR.—Treatment of Aneurism by Elastic Bandages. (*Amer. Journ. of Med. Science*, No. 153, Jan. 1879.)
- VANCE.—Lithotripsy. (*Med. and Surg. Reporter*, No. 2, Jan. 1879, Vol. xl.)
- VANCE.—Inversion of the Human Bladder. (*Med. and Surg. Rep.*, No. 5, Feb. 1, 1879.)
- SONNENBURG.—A Case of Œsophagotomy. (*Berl. Klin. Woch.*, Feb. 24, 1879.)
- SCHINZINGER.—On the Operation of Goltre. (*Memorab.*, No. 1, Vol. 24.)
- RICHET.—Vesical Calculus. (*Revue Méd. Franc. et Etr.*, No. 4, Jan. 25, 1879.)
- RACHEL.—Suprapubic Lithotomy. (*Am. Journ. of Med. Science*, No. 153, Jan. 1879.)
- ROSE.—A Case of Artificial Female Urethra. (*Med. Chir. Centr. Blatt*, Feb. 14, 1879.)
- PACKARD.—Fractures of the Lower End of the Radius. (*Amer. Journ. of Med. Science*, No. 153, Jan. 1879.)
- PETERSHAUSEN.—Spindle-cell Sarcomata. (*Detroit Lancet*, Jan. 1879.)
- POLAILLON.—The Tocographe. (*Bull. et Mém. de la Soc. de Chir.*, No. 1, Feb. 5, 1879.)
- POORE.—Four Cases of Exsection of the Hip-Joint. (*N. Y. Med. Record*, No. 5, Feb. 1, 1879.)
- MC COMAS.—Extirpation of a Lipomatous Tumour from the Axilla. (*Richm. and Louisville Med. Journ.*, Jan. 1879.)
- MAURY.—Lumbar Colotomy. (*Med. Rev.*, No. 3, Jan. 18, 1879.)
- MICHEL.—Excision of a large Femoral Cyst. (*Ibid.*)
- MARTINET.—Case of Salivary Tumour. (*Bull. and Mem. de la Soc. de Chir.*, No. 1, Feb. 5, 1879.)
- LEWIS.—Double Ligation of Int. Carotid Artery. (*Amer. Journ. of Med. Science*, Vol. cliii, January 1879.)
- KEMPF.—Removal of Cancer from the Internal Angle of the Orbit. (*Louisville Med. News*, No. 159, Jan. 11, 1879.)
- KEEN.—Case of Choleaptomy. (*Amer. Journ. of Med. Science*, Vol. cliii, Jan. 1879.)
- KUBY.—On Hessing's Bandage for Fractures of the Bones. (*Aerul. Intellig.*, Feb. and March 1879.)
- KLIFFEL.—Case of Total Tearing off of the Hand. (*Berl. Klin. Woch.*, March 1879.)
- ISRAEL.—Case of Fistula of the Stomach. (*Berl. Klin. Woch.*, No. 7, Feb. 17, 1879.)
- HUTCHISON.—Treatment of Morbus Cæsarius. (*Amer. Journ. of Med. Science*, No. cliii, Jan. 1879.)
- HUNT.—Inequality in Length of Lower Limbs. (*Ibid.*)
- HUNTER.—Treatment of In-grown Toenail. (*Philad. Med. Times*, Feb. 1, 1879.)
- GIBBERD.—Treatment of Wounds of the Scrotum. (*Gaz. des Hôp.*, No. 9, Jan. 1879.)
- FORD.—Extirpation of Teratoma. (*Amer. Journ. of Med. Science*, Vol. cliii, Jan. 1879.)
- FENWICK.—Gunshot Wound of the Brain. Recovery. Death from Phthisis. (*Canada Med. and Surg. Journ.*, Jan. 1879.)
- FRUSCI.—On a Case of Congenital Hernia in an Infant. (*Giorn. Internaz.*, Jan. 1879.)
- ELA.—Use of the Elastic Ligature in Fistulous Tracts. (*Boston Med. and Surg. Journal*, No. 4, Jan. 23, 1879.)
- ESTLANDER.—On Resection of the Ribs in Chronic Empyema. (*Revue Mens. de Med. and de Chir.*, No. 2, Feb. 10, 1879.)
- DUNCAN.—Injury to the Skull. (*Richm. and Louisville Med. Journal*, January 1879.)
- DAVISON.—Removal of a Subperitoneal Uterine Tumour by Gastrotomy. (*Amer. Journ. of Med. Science*, Vol. cliii, Jan. 1879.)
- CECI.—Resection of the Left Half of the Lower Jaw. (*Giornale Internaz. di Scienze Med.*, December 1878.)
- COWLING.—Case of Fracture of the External Condyle of the Femur. (*Louisville Med. News*, No. 159, Jan. 11, 1879.)
- CUMMING.—Case of Median Perineal Lithotomy. (*Richm. and Louisville Med. Journal*, January 1879.)
- BILLROTH.—Gunshot Wound into the outer side of the Thigh. (*Wien. Med. Woch.*, No. 4, Jan. 1879.)
- BROOMALL.—Lithotresis and Vaginal Lithotomy. (*Amer. Journ. of Med. Science*, Vol. cliii, Jan. 1879.)

NUSSBAUM ON THE TREATMENT OF INTERCOSTAL NEURALGIA BY SURGICAL OPERATION.—The following case was described by Professor von Nussbaum in the course of a clinical lecture delivered at Munich in December last, and reported in the *Aerztliches Intelligenz Blatt*, No. 53, 1878. The patient was a gentleman who during a period of twenty years had suffered from severe and obstinate intercostal neuralgia. In the early stages of the affection there had been only occasional attacks at long intervals. Subsequently these attacks became more frequent, and sometimes lasted for months, and finally the patient suffered very severely during seven months from neuralgic pains, coming on often in the course of each day, and lasting at times for two or three hours. No relief could be afforded in this case by the subcutaneous injection of morphia. Pressure over the affected region increased the patient's suffering during a paroxysm, but did not excite pain during an interval of ease. The chief seat of the pain was the region between the xiphoid process and the umbilicus; and the patient during each paroxysm suffered from a feeling of constriction around the body at this level.

In consequence of the urgent request of this patient for some therapeutical measure that might possibly give relief, Professor von Nussbaum took into consideration the anatomical conditions of the case in their bearing on the operation of nerve-stretching. The affected nerves were clearly the terminal abdominal branches of the eighth, ninth, and tenth intercostal nerves on each side. It was necessary to find two spots where, without dangerous wounding, these nerves could be exposed and manipulated. The conclusion was finally arrived at that the most suitable wounds for the purpose would be two vertical incisions in the epigastric region, one on each side, and at the distance of a hand's breadth from the outer margin of each rectus muscle. It was regarded as an impracticable operation to reach the affected nerves near the spinal column, and then to expose them to such an extent as to permit the manipulations necessary for stretching.

On November 3, chloroform having been administered and antiseptic precautions taken, an incision eight centimetres in length was made in the epigastric region on the left side. The soft parts having been divided almost as far as the peritoneum, the three intercostal nerves were exposed. Each nerve was then taken between the thumb and index finger, and then slowly and forcibly stretched. The wound

having been closed and covered by antiseptic dressings, a similar incision was made on the right side. Here there was some difficulty in exposing the nerves, and in the course of the dissection the peritoneum was wounded. A small portion of omentum that protruded from this accidental wound having been replaced, and the edges of the peritoneum having been brought together by fine catgut, the three nerves were stretched, and the incised parts dressed antiseptically, like that on the opposite side.

During the after-treatment this patient remained free from fever. The wounds were almost quite closed on the twentieth day after the operation, and on the twenty-fifth day the patient returned to his home, having been quite free from neuralgic pains during the whole of this interval. From the last report received from the patient, Professor von Nussbaum learnt that there had been no indications after his return of any recurrence of the neuralgic affection.

W. JOHNSON SMITH.

GROSS ON THE TREATMENT OF CYSTIC GOITRE.—In a clinical lecture delivered by M. Gross of Nancy, reported in the *Revue Médicale de l'Est* of November 15, he describes the treatment of cystic goitre, known as Michel's "mixed method", as extremely useful, and furnishes a case illustrating its advantages. Giving a rather extended review of the various modes hitherto proposed for removal of these growths, he points out their drawbacks, and the superiority of Michel's method over them. Briefly the latter consists in making a vertical incision in the skin over the most prominent cyst, and then dissecting carefully down through the various structures, until the wall of the cavity is reached. A very fine trocar is then pushed into the cavity with a canula, and through the latter the fluid is withdrawn. After this a plaque of *pâte de Canquoin*, about three centimètres broad, is applied to the surface of the cyst, the sides of the wound being protected by a circular piece of diachylon. This is left on a day or two until an eschar is formed, which soon after comes away, leaving a free opening through which the cyst can discharge, until it shrinks up, after suppurating for a time.

It is claimed for this method that it is less likely to give rise to dangerous hæmorrhage than several others, while, the caustic only being applied to the surface of the cyst, severe inflammation of the tissues around is avoided. Other cysts, if present, are similarly treated through the aperture in the first.

ARTHUR E. BARKER.

PATEY ON SPONTANEOUS FRACTURES, CONSIDERED ESPECIALLY FROM THE POINT OF VIEW OF ETIOLOGY, PROGNOSIS, AND TREATMENT.—*Thèse de Paris*, 1878. The author divides the fractures into three classes, and each of them into two groups, viz. 1. Spontaneous inflammatory fractures, acute and chronic. 2. Spontaneous fractures, caused by rarefaction of the bone, local and general. 3. Spontaneous fractures, caused by osteomalacia, simple and of nervous origin.

Class No. 1 comprises all spontaneous fractures caused by osteitis, osteomyelitis, or acute juxta-epiphysary osteitis. During this acute stage the inflammation acts upon the bones, producing the necrosis either of a diaphysis *in toto* or in separating the diaphysis from the epiphysis. By chronic inflammation the tissues in which a sequestrum is imbedded is much thinned, and the fracture is brought on by the inflammation becoming suddenly acute.

Fractures which occur in diathesia, scrofulous, tuberculous, and syphilitic inflammations are generally caused by the rarefaction of the bone, and seldom by necrosis. General affections, such as cancer, syphilis, scrofulosis, rachitic disposition, osteomalacia, and scurvy, tend to produce in the bone a local predisposition to fracture, which either concentrates itself on one special point or else is diffused over the whole skeleton.

A local predisposition is due to the presence of a cancerous tumour or to the existence of a specific osteitic process, such as scrofulosis, tuberculosis, or scurvy. The action of rachitis on the bone is a rarefaction of the diaphysis at the expense of the epiphysis. Osteomalacia spreads over the whole of the skeleton, decalcifying it. Alterations which are caused in the bones by nervous, central, or peripheral lesions, vary according to the nature of the affection.

Spontaneous fractures very seldom occur in cases of paralytic lesions of the nervous centres, whether they are located in the brain or the cord. The only exception to this rule are fractures which happen in the nervous osteomalacia of maniacs. As far as spinal lesions are concerned, irritating ones are the only class which are capable of producing such an alteration in the bones as to cause a fracture. This is especially seen in locomotor ataxy, where quick consolidation and exuberant growth of osseous matter are very remarkable. The author quotes one case of spontaneous fracture which occurred in the course of variola, and was without doubt caused by the zymotic germs of the disease. So far as the prognosis is concerned, two points have to be especially kept in view, viz., the probability of consolidation of the fracture and the origin of the latter. With the exception of cancerous fractures consolidation may occur in almost every case. The treatment depends on the etiology and the condition of the fracture.

MARTINET ON A SALIVARY TUMOUR, FOLLOWING THE EXTIRPATION OF A TUMOUR OF THE PAROTID GLAND.—At a meeting of the Société de Chirurgie on January 8, 1879, M. Martinet read the following note on an unique case. A lady aged 28 had for some time suffered from a tumour of the parotid gland. M. Martinet operated upon it, enucleating the tumour, which resembled an adenoma. The patient was ordered to maintain complete silence, and to avoid mastication. On the tenth day, thinking she was out of danger, because the wound was cicatrised, she bit into a piece of bread. Immediately her cheek swelled very much, and the tumour reappeared on the same spot as before. M. Martinet, on examining it, found that it was soft and fluctuating. He made an incision, and a few drops of pus and saliva came out of it. On the patient being told to masticate the tumour formed again. She was again restricted to taking liquid food, and injections of carbolic acid were made into the sac. On the next day the carbolic acid was found to enter the mouth. It had passed through the ductus stenoianus. On the twentieth day the patient was well and the wound was closed.

This case seems to be the only one recorded. We must especially notice three points—the sudden formation of the fluctuating tumour, the communication between it and the ductus stenoianus, and, lastly, its rapid healing. This was due to the cessation of the flow of the saliva into the cavity, caused by the obliteration of the opening through which the saliva penetrated into the cavity, the obliteration of

the cavity itself, and the ductus having again been opened by the injections, so as to allow the liquid to pass through.

SYPHILOGRAPHY.

LELOIR ON BRACHIAL MONOPLÉGIA OF SYPHILITIC ORIGIN.—M. Leloir reports (*Gaz. des Hôpitaux*, January 14, 1879) two cases of paralysis of the arm occurring in syphilitic patients under the care of M. Vulpian. In neither case was there convulsion, or contraction of the limb. The eyes, the tongue, and lower limbs were intact.

One of the patients, who had some wasting of the paralysed arm (the right), died of acute tuberculosis. At the autopsy, besides miliary tubercle of the meninges, there was found a patch of gummy meningitis situated over the superior third of the left ascending frontal convolution of the brain. The patch was about the size of a 50-centime piece, and 3 millimètres thick. It was so intimately adherent to the brain, that the latter was torn in removing it.

BULL ON SYPHILIS OF THE CONJUNCTIVA.—In a paper published in the *Amer. Jour. of the Medical Sciences*, October 1878, p. 405, Dr. C. S. Bull considers at some length the various ways in which the conjunctiva may be affected by syphilis; and, besides referring to numerous cases already published by other observers, gives an account of three examples which were under his own care.

The initial lesion of syphilis is rarely met with in the eyelids, and still more rarely on the conjunctiva alone. In most of the recorded cases the ulcer has been on the margin of the lid where the cutaneous and conjunctival surfaces meet. In the following case the sore tended to extend in an unusual direction. The patient was a man aged 29, who said he had never suffered from any venereal disease, and who showed no signs of any preceding lesion on his body. There was no history of contamination, so the mode of origin of the ulcer was unknown. The lower eyelid became inflamed, swollen, and painful about a week before Dr. Bull saw him, and there was some muco-purulent discharge. On everting the lid, deep in the cul de sac, about a quarter of an inch from the external canthus, was seen an ulcerated surface, covered by a greyish pultaceous matter, with hard base, the induration extending for some distance on every side. The ulcer was irregularly oval, about half an inch in its longest diameter, and extended upwards into the ocular conjunctiva, which was thickened and congested. The palpebral conjunctiva was also much congested. The preauricular gland of the corresponding side was enlarged and tender, and later there was enlargement of the parotid and submaxillary glands. The ulcer was cauterised, and anti-syphilitic remedies were prescribed. Under this treatment the sore healed in about three weeks, and the glandular swelling gradually subsided. About nine weeks after the occurrence of the ulcer, roseola appeared, followed by mucous patches of the mouth and tongue, and iritis.

Secondary lesions of the conjunctiva are much more frequent than primary. Sores with a tawny surface are not very uncommon, and are probably ulcerated mucous patches. A case is reported to show the mode of growth of a mucous patch in this situation. A man aged 22 had contracted syphilis four months before he came under Dr. Bull's observation. He presented himself for treatment on

account of iritis of the left eye, and a general papular eruption. Two days later, the upper lid of the left eye became swollen and tender. On everting the lid, an elevation of the conjunctiva, something like a vesicle, was seen about its centre. The next day the elevation had extended, and vascular congestion was more marked. The congestion continued until, on the sixth day, the signs of a mucous patch were unmistakable. The surface afterwards ulcerated. It eventually healed under treatment, but the cicatrix produced a slight entropion.

A third variety of conjunctival lesion is gummy infiltration, circumscribed or diffuse; and this is, probably, the least common of all. Late manifestations of syphilis are rarely limited to the conjunctiva, and usually begin in other tissues. The author concludes his paper by giving a long report of a case in which he diagnosed gummy infiltration of the conjunctiva, with gummata of the sclera.

GUIBOUT ON SYPHILITIC MUSCULAR CONTRACTION.—(*L'Union Médicale*, January 4, 1879). The patient, a man aged 49, under the care of Dr. Guibout, in the Hôpital Saint Louis, had always enjoyed good health till the year 1853, when he contracted syphilis. Although no general treatment was followed, he had no further trouble until 1872, when he had a severe attack of laryngitis, which subsided under iodide of potassium, but left a permanent hoarseness. In 1873, he was under the care of M. Hardy for syphilitic ulceration of the legs, of which the cicatrices still remain. About the same time, also, began the muscular affection from which he still suffers. No other accident appeared until September 1878, when some small gummata were noticed in the frontal and parietal regions. About five years ago, sharp pains in the left arm, from the shoulder to the elbow, and especially severe at night, were first felt; and, at the same time, the patient said, there was some weakness of the limbs. From that time the pain continued, with intermissions, until October 1878, the date of his admission into the hospital under Dr. Guibout.

On examination, the left biceps seemed somewhat wasted, and the circumference of the middle of the arm during relaxation of the muscle was $1\frac{1}{2}$ centimètres less than that of the right; but, during muscular contraction, the difference was $2\frac{1}{2}$ centimètres. The left fore arm could not be completely extended, and, at the fold of the elbow, was a prominence formed by the tendon of the biceps, which felt hard, like a stretched cord. The distance from the coracoid process to the bicipital tuberosity of the radius was 3 centimètres less on the left than on the right side. The muscular portion of the biceps appeared, excepting the slight wasting, to be quite normal; the shortening, as well as the hindrance to complete extension of the forearm, seeming to be exclusively due to contraction of the tendon. No other muscles were affected. There was syphilitic osteitis of the lower third of the left humerus. Under doses of 2 grammes (30 grains) of iodide of potassium, gradually increased to 4 grammes (60 grains), the whole of the lesions had greatly improved by December 3.

Muscular contraction is a rather rare manifestation of syphilis, and belongs to the tertiary stage. In this case, the tendinous portion of the muscle was involved, which agrees with Notta's views on the subject; while Bouisson of Montpellier considers the muscular portion to be more often attacked. All observers agree that the biceps is the muscle most frequently affected.

ARTHUR COOPER.

**LELOIR ON TWO CASES OF BRACHIAL MONO-
PLEGIA ORIGINATING FROM SYPHILIS.**—The follow-
ing observations on this interesting disease were
read at the meeting of the Société de Biologie on
December 28th, 1878.

CASE I.—R. J., a workman, aged 49, was received
on September 4th in M. Vulpian's ward. The pa-
tient denied all syphilitic antecedents. Having,
however, been carefully questioned, he stated that,
about ten years ago, his hair came off. He did not,
on admission, show any symptoms of alopecia.
Shortly after this, he began to suffer from rheumatic
pains in all his limbs, but he positively denied ever
having had sore throat or any cutaneous eruption.
On the inner side of the left leg was a brownish
scar of the size of a half-crown piece, which he attri-
buted to a varicose ulceration. However, there were
no traces of varices to be found when he came under
treatment; but, in the infraclavicular space there
were on both sides a few glands of the size of a nut.
It, therefore, seems clear, that the cerebral affection
for which he entered the hospital was of syphilitic
origin; this supposition was verified subsequently by
the good results of antisyphilitic treatment. About
a year ago, he began to suffer from frequent head-
aches, which soon were followed by amblyopia.
Four days before entering the hospital, when follow-
ing his avocation, he suddenly felt very painful for-
mication in the whole of the left arm, including the
shoulder. He tried to get rid of this sensation by
moving his arm violently up and down, but it grew
worse. Two hours later, the left forearm was totally
paralysed and hung motionless and flaccid by his
side. The next morning, the patient tried to work,
but his left arm still remaining inert, he resolved to
enter the hospital. On examination, it was found
that the left superior extremity was almost entirely
paralysed; there was no contraction of the arm,
although the fingers were slightly contracted. He
could scarcely close his hand, and only by great ex-
ertion bend the forearm towards the arm; but he
could not overcome any resistance, however slight.
With the aid of the muscles of the shoulder, he
would raise slightly the upper extremity, but it would
again fall down. There seemed to be no difference
in the circumference of both members; faradic con-
tractility still existed, although slightly lessened.
There were no abnormal sensations in the arm, no
painful symptoms, and the only thing the patient
complained of was a slight sensation of cold in the
hand. On comparing the temperature of both upper
extremities, a very notable difference could be found;
the fingers of the left hand were also slightly cyanotic.
The inferior extremities were not in the least
affected, neither was there any facial paralysis.
There were slight cephalalgia, amblyopia, and sing-
ing in the ears. The patient's intellect seemed in-
tact, although very little developed; he complained,
however, that his memory was not so good as for-
merly.

He was treated with mercury and iodide of potash,
and, a week later, a notable improvement might be
marked in the movements of the left arm. He could
grasp objects firmly, and feel much stronger, when,
suddenly, a violent attack of headache came on.
The pain was principally felt in the frontal region,
specially on the right side, and in the right parietal
region. The pain was aggravated by percussion.
A week later, the headache had vanished, and, in
three more weeks, the patient left the hospital with
only a very slight difference between both extremities.

CASE II.—F. A., carrier, was received into the hos-

pital on November 26th, 1878. About fifteen years
previously he had contracted a chancre, followed by
sore throat and cutaneous eruptions. He then re-
covered, and was quite well till four years ago, when
he was laid up with inflammation of the lungs. He
had scarcely recovered, when he began to suffer
from violent headaches, followed, after some months,
by insensibility and wasting of the right arm. When
this limb was entirely paralysed, the patient entered
a hospital, and was put under antisyphilitic treat-
ment, and galvanised. A few months later, he left
the hospital, although his right arm was still weak.
Some time after, he was suddenly seized with the
prodromi of a milary tuberculous eruption, ad-
mitted into M. Vulpian's wards, and died there
after the lapse of a fortnight. It is to be noted that
this patient, also, had never had any convulsions or
contractions of the right arm, and that both the face
and the right leg were perfectly intact. There had
not been any sensory troubles in the affected ex-
tremity, nor was the faradic contractility lessened.
The right arm was very thin, while the muscles of
the left were well developed.

Necropsy.—The lungs, the cerebro-spinal sheaths,
and the digestive canal, were found to be covered
with milary tubercles. The brain was free from
them, but, on the surface of the left hemisphere,
about 5 millimètres from the longitudinal scissure,
and on a level with the middle portion of it, the
dura mater was considerably thickened over a space
of the size of a sixpenny-piece. This thickening did
not adhere to the bones of the skull, and, having
been dissected carefully out, was found to consist of
the three cerebral meninges, which were united into
a patch the size of 3 millimètres, having a rugged
surface and presenting a greyish and sclerotic ap-
pearance. The meninges which surrounded this spot
to the extent of 3 millimètres, were of a whitish
colour and slightly thickened. The patch adhered
firmly to the brain-substance, so that it could not be
removed without carrying away the whole of the
grey matter, and about 1 millimètre of the white
substance, which were directly underneath it. It
corresponded exactly to the upper third of the as-
cending frontal convolution.

Microscopic cuts having been made of the patch,
it was found to be of sclerotic consistency, and of a
dull greyish colour. In the centre of the cut was a
thin yellowish line about $\frac{1}{4}$ of a millimètre thick
and 3 millimètres long. This was the only lesion
which could be traced. The other membranes of the
brain did not show any alterations, except the mili-
ary tubercles. The bones and arteries of the skull
were healthy, and there was a considerable œdema
of the cerebral substance. Although the right arm
had been considerably atrophied, the anterior roots
of the nerve of the paralysed side did not appear
atrophied, neither was there any degeneration of
the nerve tubes, either in this nerve or in the nerves
of the brachial plexus of the corresponding side, and
in the inframuscular nerves. The muscular fibres
also appeared healthy.

REMARKS.—Both cases offer such analogies from
a clinical point of view that they may be pronounced
to arise from similar causes, as the necropsy of the
first patient would doubtless have shown. Violent
headaches preceded in both patients the monoplegia,
which comes on suddenly without any symptom ex-
cept a progressive torpor of the superior extremity
in the course of a few hours. In both cases, there
was no facial paralysis, neither was the correspond-
ing inferior member paretic. There never were any

transitory contraction or partial temporary convulsions; and, in the second case, where the paresis lasted nearly four years, no secondary contraction was observed. In both cases, the sensibility was not disturbed, and in the first, it may be observed, that the temperature of the paralysed side was lower than that of the other.

From an anatomo-pathological point of view, the second case offers us one of the most remarkable instances of cerebral localisation, as we see here how a circumscribed patch of a gummatose cerebral sheath, which occupies a small portion of the cortical cerebral substance on a level with the upper part of the left ascending frontal convolution, may cause a monoplegia of the right arm.

This experience tends to verify Professor Charcot's opinion, that the motor cortical centres for the extremities of the opposite side are located in the two superior thirds of the ascending convolutions, and specially in the ascending frontal convolution. It is, however, worth noticing, that the lesion existed in the superior third of the ascending frontal convolution, and not in its middle portion, where, according to Professor Charcot, the cortical centre of the isolated movements of the upper extremity would be found.

PATHOLOGY.

RUNEBERG ON THE PATHOLOGICAL CONDITIONS OF ALBUMINURIA.—The author has summed up the results of his observations as follows, in the *Deutsche Archiv f. Clin. Med.*, vol. xxiii, Nos. 2 and 3, 1879. The transudation of albumen into the urine always takes place in the Malpighian bodies, and is due to an increased permeability of the walls of the convoluted tubes and their epithelial lining. The particles of albumen which are suspended in the blood-serum, and which, under normal conditions, cannot transude through the membranes of the Malpighian bodies, are washed through them, together with the other constituents of the urine, and mix with the latter.

In a healthy kidney this increased permeability is due to a considerable decrease in the difference between the blood-pressure within the Malpighian bodies, and the counter-pressure within the urinary tubuli. Here, therefore, the albuminuria would only be accidental or transitory, and may, according to what has been said, be ascribed either to a considerable decrease in the blood-pressure in the Malpighian bodies or to an increase in the pressure in the urinary tubules, or to both causes combined. If the albuminuria should, however, persist, then the increased permeability of the membranes must be ascribed to some degenerative or suppurative process within the convoluted tubes of the Malpighian bodies; here, too, pressure has a marked influence on the permeability of the lining, and consequently on the amount of albumen contained in the urine, in the same way as has been quoted above. Certain kinds of the albuminous bodies, such as egg-albumen and hæmoglobine, are transuded much more easily than serum albumen. If, therefore, these substances have been mixed in some way with blood serum, they immediately transude into the urine like dissolving salts, even if the blood-pressure should be normal and the kidneys healthy.

BRINTON ON THE PATHOLOGY OF URETHRAL STRICTURE.—In the *Philadelphia Medical Times* of December 1878, Dr. J. H. Brinton publishes six cases of operations for stricture followed by fatal

results. These cases have occurred in his practice at the Philadelphia Hospital during the last eight years. All six patients were men broken down by intemperance.

CASE I.—Age 37. Stricture at 2½ inches from meatus, divided with Charrière's urethrotome, and afterwards dilated with Holt's dilator. Death in five days from suppression of urine. *Post mortem* showed small abscesses in prostate, kidneys large and congested, other organs healthy.

CASE II.—Age 35. Stricture at 1 inch, and also at 2½ inches, divided with Charrière's urethrotome. Patient a month afterwards caught a cold and died of nephritis. *Post mortem*—"surgical kidney".

CASE III.—Age 45. A worn out drunkard. Gradual dilatation for about a month. Died exhausted. *Post mortem*. Abscess in prostate. Bladder thickened and suppurating.

CASE IV.—Age 41. Stricture at 2 inches. Extravasation of urine, and abscess in scrotum and perinæum. Stricture dilated with Voillemier's dilator. Death in 5 days. *Post mortem* showed tubercular deposits in lungs and testicles, kidneys congested, ureters healthy.

CASE V.—Age 45. Stricture at 2½ inches and also at 5½, gently dilated with Holt's instrument. Much fever. Death in 11 days. *Post mortem* showed both kidneys full of multilocular cysts.

CASE VI.—Age 66. Stricture at meatus, divided with Charrière's urethrotome. Patient had a rigor and died quietly in 16 hours. *Post mortem* revealed nothing.

Dr. Brinton's Remarks.—There was urethral fever in all of these cases, and his experience was, that the severity of the fever did not in any way depend upon the gravity of the operation. Case 6 was very remarkable. He had carefully observed 100 cases of stricture, and had come to the same opinion as Sir Henry Thompson with regard to the localities and causes of stricture. G. BUCKSTON BROWNE.

PALMERINI ON SOFTENING OF THE LEFT CEREBRAL HEMISPHERE.—Professor Palmerini (*Archiv Ital.*, fasc. v and vi, 1877) relates three cases, in each of which the left anterior central convolution was found, by examination after death, to be involved in the process of softening. In every case there had been, during life, paralysis both of the limbs and of the facial muscles of the opposite (right) side.

The conclusions which the author draws from his observations are these—1. Psycho-motor centres exist in the anterior central convolution of man, corresponding with those which have been proved by Ferrier, Hitzig, and Albertoni, to exist in animals. 2. From these centres groups of muscles on the opposite side of the body are voluntarily set in motion. 3. Lesions of these centres produce a true, persistent, but incomplete motor paralysis, which is always characterised by marked exacerbations and remissions. 4. The absence of any symptoms of ataxy shows the function of the centres in question to be exclusively motor and not in any degree sensory.

C. S. W. COBBOLD, M.D.

HILTY ON ACUTE HÆMORRHAGE INTO PANCREAS.—Dr. Hilty of St. Gallen (*Schweiz. Corr. Bl.*, vii, 22, 1877) relates the following case. A mechanic, 30 years of age, well built, muscular, given to alcohol, died after two days' illness with symptoms of acute gastritis, blood-poisoning, and perforation of the intestine. At the *post mortem* examination any

trace of peritonitis was absent; on the contrary, the neighbourhood of the pancreas showed an abundant infiltration of blood. The gland itself was double its ordinary size, of tough consistence, and dark red coloured. From the interlobular connective tissue much bloody serum flowed on section. Behind the head of the pancreas were small hæmorrhages; the duct was not dilated. The corresponding renal vein appeared swelled and filled with blood-clot. Spleen and kidneys hyperæmic. Stomach dilated, the mucous membrane thickened; ecchymoses in the cardiac end and lower part of the œsophagus. Liver voluminous, fatty. Much fat on the enlarged heart; muscular fibres soft, somewhat fatty. Brain congested. Ventricular fluid turbid.

BOETTCHER ON AMYLOID DEGENERATION.—A. Boettcher (*Virchow's Archiv*, Band lxxii, and *Centralblatt für die Med. Wissenschaft.*, October 19) disputes the view of A. Wagner and some other authors that in amyloid degeneration the liver-cells are either not affected, or are only atrophied in consequence of pressure by the amyloid capillaries. He used the iodine and sulphuric acid reaction as more certain than the aniline test. The livers were hardened, and then treated with iodine and sulphuric acid. He found not only amyloid degeneration of liver-cells near amyloid capillaries, but also in some places marked amyloid degeneration of the cells with quite intact capillaries. When he was able to observe destruction of the liver-cells, this occurred not near amyloid but simply dilated capillaries. He also speaks of a case of syphilis of the liver in which the reaction with iodine and sulphuric acid, although present in the fresh state, no longer appeared after the organ was hardened in alcohol. ROBERT SAUNDBY, M.D.

RENDU ON GLIOSARCOMA OF THE BRAIN.—M. Rendu (in a *Note sur un cas de Gliosarcome ayant simulé une méningite tuberculeuse. L'Union Médicale*, Janvier 28, 1879) gives the full details of an interesting case in which there existed all the symptoms of tubercular meningitis. The headache, vomiting, and gradual loss of the intellectual faculties, seemed to indicate a diffuse lesion of the nervous centres. On *post mortem* examination, however, there was no trace of tubercular disease, but the ventricles were found largely distended with fluid, and a soft gelatinous tumour, about the size of a hen's egg, occupied the posterior part of the right optic thalamus, and penetrating into the lateral ventricle; otherwise, the nervous system was healthy. Commenting on the case, the author points out that it affords important information from a physiological and pathological point of view, and shows that, although great advances have been lately made in our knowledge of localisation of the functions of the brain, that they are still far from being of much practical and diagnostic utility. The present case presented all the symptoms of tubercular meningitis, including the lowering of the pulse and temperature; but, at the autopsy, the meninges of the brain were found perfectly healthy, there being no trace anywhere of tubercular granulations. There was instead hydrocephalus induced by a tumour. It may, therefore, be concluded, that the ventricular distension was the chief origin of many of the symptoms characteristic of tubercular meningitis; for example, the cerebral obtusion and the somnolence gradually increasing to fatal coma. The case indicates the difficulty of distinguishing between certain varieties of cerebral tumours from affections of the coverings of the brain. Another point of importance in a dia-

gnostic point of view is the duration of the symptoms. In this particular case the illness was so prolonged as to give rise to great reserve in diagnosing tubercular meningitis, and the author says that, if the illness exists over four weeks, we may abandon such a theory. A. HUGHES BENNETT, M.D.

CLELAND ON THE BRAIN OF CYCLOPIANS.—Professor Cleland, in an account (*Journal of Anat. and Physiol.*, July 1878) of the cyclopiian brains in a human nine months' foetus, in a pig, lamb, and dog, which he has lately had an opportunity of examining, draws the following conclusions. He considers that the development of the eye in the cyclopiian does not depend upon the degree of development of the optic nerves and optic tract, for there is no trace of the retina in the cyclopiian eyeball, which consists entirely of structures developed from the mesoblast and superficial layers of the epiblast, the cerebral elements being absent. The corpora quadrigemina are normally developed in cyclopiians, although the nervous parts of the organ of vision are quite absent; and this is the more interesting, since lesions of the corpora quadrigemina have been observed to injure the sense of sight, whilst the same bodies have been observed to be in an atrophied condition in the brains of persons who have been long blind. Admitting that Förster's statement is true, that the defect of cyclopiian brain is an arrest of the first cerebral vesicle, Dr. Cleland does not admit that the defect of the brain is the cause of the facial defect, but thinks that both are due to a common cause. This cause is, in the author's opinion, a thickening of the coats of the blood-vessel which ascends between the first and second cerebral vesicles; the thickening causing a constriction which interrupts the forward growth of the parts anterior to it. The cerebral hemispheres are normally situated in front of a fissure which extends between the hemisphere vesicles and the roof of the third ventricle, and form two projections, one on each side. In cyclopiians there is but one small mesial structure in this position, whilst the parts behind the transverse fissure exhibit a similar difficulty in diverging from the middle line. To this difficulty of divergence is due the union of the optic thalami and the prolongation of the aqueduct of Sylvius, which occurred in every case in the lower animals. In each case also the region of the pineal gland, the roof of the third ventricle, had given way before a collection of fluid, and had allowed the ventricle to be distended into a large membranous vesicle. Thus the most constant condition in the brain of cyclopiians appears to be this membranous vesicle, to which the term drosy of the pineal gland may be fittingly applied.

ROBIN ON THE URINE IN HYDROPHOBIA.—M. Robin (*Gazette Médicale de Paris*, October 5, 1878) has had an opportunity of examining the urine of a patient suffering from hydrophobia. He finds that the quantity is considerably diminished, the density is increased, and the acidity remains, whilst there is a decrease of solid materials, viz., urea and chlorides. The amount of uric acid is increased, as also its proportion to urea. An increased proportion of the phosphoric acid to urea is noticeable, due to the acid retaining its normal proportions, whilst the quantity of urea greatly diminishes. The phosphoric acid is present in the urine as sodium and potassium phosphates; earthy phosphates, on the other hand, are markedly diminished in quantity. Albumen is present; sugar is absent. Fat is found in large

quantities; leucin and margaric acid, as well as those various kinds of bacteria which are seen in urine which has begun to putrefy, are also found. M. Robin thinks that it is not possible to found an hypothesis upon these data, but the increase of alkaline phosphates, of potassium phosphate, and the presence of fat and margaric acid are facts which seem to indicate an active denutrition of the nervous centres. Leucin, calcium, hippurate, and the extractives, have a relative value, in the view that the two former are not met with in the normal state. It is impossible to estimate the part played by the lower organisms which are found in the sediment, even if any importance whatever is to be attached to their presence. M. Robin contents himself with simply noting their existence, intending to study their action at his leisure. D'ARCY POWER.

MACLAREN ON ABSENCE OF CORPUS CALLOSUM IN THE HUMAN BRAIN.—Dr. MacLaren relates the following case in the *Edinburgh Medical Journal*, January 1879.

A girl, four months old, had an attack of hydrocephalus, of which severe traces remained. As she grew up, she was found to be deaf and dumb. Between the ages of twelve and twenty she had epileptic fits; at twenty they ceased, but she became subject to fits of irritability. Twelve years later, Dr. MacLaren noted of her: appetite vigorous, habits dirty, is deaf and dumb, sight and taste remain, reflex action and sensation dull, unable to walk unassisted, drags her left leg; voluntary use of hands very limited; with rare exceptions, quiet, living on heedless of all around. A few months before death, "insane ear" developed on the left side, and emaciation became excessive, notwithstanding her large appetite. The autopsy showed the pia mater thickened and adherent along margins of longitudinal fissure, the convolutions extremely thin and narrow, the white matter much reduced in thickness, the lateral ventricles greatly enlarged, the septum lucidum entirely absent. Nothing was left of the corpus callosum except two narrow belts, one on its anterior, the other on its posterior extremity. Body of fornix was absent, but the anterior and posterior pillars were represented. Corpora striata and optic thalami were softened. The anterior, middle, and posterior commissures were intact.

ALEXANDER R. DODD, M.R.C.S.

WINIWARTER ON INTRA-ABDOMINAL CHYLOUS EFFUSION.—Professor Winiwarter of Liège reports in the *Medicinisch-Chirurgisches Central-Blatt*, No. 1, 1879, the following case, which was observed at the Children's Hospital in Vienna in 1876, and is described as one of "chylangioma cavernosum in abdomen".

The patient was a weak female infant aged four months, whose abdomen, immediately after birth, was noticed to be very prominent. The infant took the breast freely, and increased slowly in size. The abdomen continued to swell, but no other symptom, save a tendency to constipation, was manifested until the fourth month, when the abdominal swelling had increased so much as to interfere with respiration. At the same time, the little patient suffered much from vomiting and distension of the intestines by gas, and was much constipated. When first seen by Professor Winiwarter, her body was much emaciated, and her face cyanotic. The abdomen was enormously distended, and measured 65 centimètres in circumference. The anterior abdominal

wall was very thin and tense. There was a well marked tympanitic sound in front of the abdomen, and a dull sound in each flank. The swelling was not quite symmetrical, as a distinct projection could be observed in the right hypochondrium. There was no oedema of the lower extremities, and the urine did not contain albumen. As the case was clearly one of a collection of free fluid in the abdominal cavity, a puncture was made with a trocar and cannula on the left side, and vent given to 3 litres of a fluid which, to the surprise of Dr. Winiwarter, closely resembled fresh milk in colour, consistence, and even smell. The abdomen was much reduced in size through this operation, and considerable relief was afforded, although the intestines remained much distended, and a well-marked tumour still existed near the region of the liver. This tumour, on deep palpation, felt like a mass of conglomerated cysts. It seemed to be fixed to the front of the spine, but evidently was not adherent either to the liver or to the anterior wall of the abdomen. The fluid, on microscopical and chemical examination, was found to be pure chyle. In consequence of rapid and repeated accumulation of the swelling, the abdomen was tapped after an interval of a month, in November, and again in the following December and January. At each of these operations, about 3 litres of chyle were removed. The patient subsequently passed from under the notice of Professor Winiwarter.

In some remarks on this case it is stated that an effusion of chyle within the peritoneal cavity can occur only through transudation or through a solution of the continuity of some large lymphatic vessel. Cases are on record in which, after compression or plugging of the thoracic duct, a milky fluid collected in the pleural cavities and within the abdomen. Such cases as these can be readily explained. In these instances, the milky fluid was never effused in large quantities, nor was there ever a continuous and rapid accumulation. It has been proved by *post mortem* investigations that, in cases of this kind, the lacteals soon become impermeable, in consequence of inspissation of the stagnant chyle, and that the effusion of milky fluid soon ceases. The phenomena in the above recorded case indicate that there was no obstruction to the flow of chyle from the whole intestinal tract. Professor Winiwarter, in considering the relation of the tumour in the right hypochondrium to the collection of chyle within the abdomen, formed the following hypothesis as to the nature of his case: congenital occlusion of the thoracic duct, formation of a compound cystic tumour through distension of the lacteals at the root of the mesentery by obstructed chyle, rupture of one of the cysts before or during birth, persistence of this solution of continuity, and unceasing effusion of the chyle absorbed by the intestines. That cystic dilatation of the abdominal lymphatics may be readily produced, has been proved by the experiments of Wegner, who, after repeated injections of air into the peritoneal cavity of the rabbit, found at the autopsy large cyst-like swellings containing air at the root of the mesentery. The fact that this child lived and increased in size, notwithstanding a supposed occlusion of the thoracic duct, is accounted for by the view that there was very probably a reabsorption of the effused chyle by the lymphatics of the peritoneum and central tendon of the diaphragm, and also by the blood-vessels.

This interesting communication concludes with references to previously reported cases of abdominal

chylangioma, and with a full report of the analysis made by Professor Ernest Ludwig of the effused chylous fluid.
W. JOHNSON SMITH.

KOCHER ON GOÎTRE AND OSTEOMYELITIS.—(*Arch. für Klin. Chir.*, vol. xxiii, p. 101.) Acute goitre, as well as osteomyelitis, and probably all inflammations of deeply situated organs are, according to this author, to be considered as infectious diseases, caused by the influence of the same agents which induce superficial inflammations. 2. These zymotic germs generally enter the body by the digestive tract, and in some cases the lungs, the mucous membrane of the uterus, or excoriations of the cutaneous surface. 3. The germs do not always induce inflammation.

GUÉBEARD ON TUBERCULOSIS CYSTITIS (*Lyon Méd.*, No. 2).—At the *post mortem* the bladder is generally found retracted; its mucous membranes present the traces of either acute or chronic inflammation. One of the special symptoms of the lesion is the constant presence of granulations, or tuberculous ulcerations. The former may be grey, semi-transparent, yellow or opaque (in this case, they are more voluminous), according to the different stage of their development. The ulcerations are caused by the purulent liquefaction of certain groups of miliary granulations; they differ in size and form, and are mostly situated on the surface, and do not go beyond the mucous membrane; their borders are smooth, their colour is often yellowish.

These lesions are mostly found near the neck of the bladder, or its fundus, near the opening of the ureters. They may follow the course of the whole of the urethral canal, or the ureters up to the kidneys. The author here admits, in opposition to what has been held by several writers, that lesions may progress upwards, from the bladder to the kidneys, and not always follow a downward course from the kidneys to the bladder and the urethra.

The symptoms are mostly the same as are met with in every case of cystitis, such as hæmaturia during the earliest stages of the disease, followed by dysuria, pains during micturition, frequent desire to micturate, and the presence of more or less pus in the urine. A very characteristic symptom of tuberculous cystitis is, that the desire to micturate and the pains are generally more frequent and more intense by night than by day, contrary to the general rule in cystitis, where repose in bed generally soothes the pains. If tubercles can also be found in other organs, the diagnosis of tuberculous cystitis may be considered as certain.

The treatment consists in the administration of injections with opium, and in applying to the neck of the bladder a solution of 50 per cent., or 25 per cent., of nitrate of silver; but all this tends only to alleviate the pain, as the disease may be considered incurable.

BAUMGARTEN ON HEMIOPIA FROM ORGANIC DISEASE OF THE CORTEX CEREBRI.—Dr. P. Baumgarten (quoted in *Journal of Nervous Diseases*, Oct. 1878) describes a case of left lateral hemiopia coming on suddenly after exposure to cold. The left half of the field of vision of both eyes was completely gone, the line of separation passing through the fovea centralis, while the other part of the retina still retained normal perception. Death occurred in several months from cardiac paralysis in renal disease. *Post mortem* examination revealed an apoplectic cyst the size of a walnut in the substance of the right

occipital lobe. Its lower wall was separated from the cavity of the right posterior horn by a layer of normal medullary substance several millimètres in thickness, while its upper wall was formed by the convolutions of the three gyri-occipitals, which were in a state of yellow softening. Munk, in experiments on monkeys, produced paralysis of one half of each retina from a lesion of the same side, exactly corresponding to this case.

LABARRIÈRE ON SCLEROTIC MENINGITIS.—In a thesis on this subject, M. Emile Labarrière (*Gazette Hebdomadaire*, July 12) studies one of those lesions which occur at the base of the brain under the form of circumscribed patches of fibrous or sclerotic thickening of the pia mater. The only well established cause of sclerotic basilar meningitis is syphilis, and it occurs in the tertiary stage of this disease. By compression of the cranial nerves, direct paralyses are induced, which are generally motor, rarely sensory. These paralyses are irregular in their succession; they are permanent, or in exceptional cases they may be transitory. Sclerotic basilar meningitis is frequently complicated by lesions of the side of the brain, some of these being due to syphilis, and others resulting from the meningitis. The thesis contains eleven very complete observations, the chapter on complications being peculiarly interesting; in short, it is a work which will be consulted with profit.

DÉJÉRINE ON THE ALTERATIONS WHICH ARE DETERMINED IN THE ANTERIOR ROOTS OF THE SPINAL NERVES BY SATURNINE PARALYSIS.—The author communicated the following results of his observations at a recent meeting of the Société de Biologie on February 8.

It has been known for years past that the muscular nerves constantly degenerate in saturnine paralysis. This degeneration, which presents a decided analogy to the change which is found in the peripheric end of a nerve which has been divided, is more strongly marked if the paralysis and atrophy of the muscles have lasted for a certain time. The same degeneration has been met with in the trunk of the radial nerve, but none of the authors who have studied the question have ever stated the particular place of the nerve up to which they have noticed this degenerative process. Vulpian is the only one who, in making the necropsy of a patient who was suffering from paralysis of the extensors in consequence of lead-poisoning, found that a certain number of the anterior roots of the cervical plexus had degenerated. In this case it was evident that a certain number of the nervous tubuli had been affected by an interstitial neuritis; they were atrophied, and reduced to the medullary sheath of Schwann. This was the only case where until recently a positive result has been obtained from the examination of the roots.

M. Déjérine having had the opportunity of examining the nervous centres and muscles of five persons who were affected with paralysis of the extensors brought on by lead-poisoning, has obtained more satisfactory results. Having made a special point of examining the intramuscular nerves, the radial nerve, and the anterior roots of the cervical plexus while still fresh, he has succeeded in tracing the following alterations.

Alterations of the Muscles.—The primitive fibres were atrophied, the sarcous elements more numerous than in a normal state, no trace of fatty degeneration of the muscle.

Atrophy of the Intramuscular Nerves.—Degenerative atrophy of the nervous tubuli, granular, transformation of the white substance, increase in number of the nuclei, destruction of the axis-cylinder. This alteration of the nervous tubuli is in direct proportion to the duration of the paralysis, but never affects all the tubuli equally, some being hardly changed in appearance, whilst of others nothing remains except an empty sheath; a healthy fibre is, however, very seldom met with.

Alterations of the Radial Nerve.—A certain number of the nerve-fibres of this nerve are subject to the same alterations which we have just mentioned; but the degeneration does not spread over the whole length of the nerve, except in one case, where degenerated fibres have been found in the radial nerve, near the spot where it branches off from the brachial plexus.

Alteration of the Anterior Root.—In two cases, M. Déjérine was able to trace distinctly the degeneration of a certain number of the nervous tubuli which was in every respect similar to that met with in intramuscular nerves and in the trunk of the radial nerve. It is worth notice, that in one of these cases, where the patient was only paralysed on one side, the roots had degenerated on the corresponding side, the other being perfectly healthy. In the three other cases no distinct change could be found, so far as the degeneration of the nervous tubuli was concerned.

On the strength of these discoveries, M. Déjérine has been led to postulate the hypothesis, which future researches alone will either confirm or reject, viz., that saturnine paralysis unquestionably originates from the spinal cord; this being the only explanation which in the present state of science is capable of explaining at once both the anatomical lesions and the clinical progress of this affection.

FRIEDBERG ON SOME CHARACTERISTIC SYMPTOMS OF DEATH CAUSED BY HANGING.—(Virchow's *Archiv*, 74, p. 401.) A body having been exhumed 28 weeks after death, it was found that death brought on by hanging or strangulation could be proved from a deep mark on the throat caused by the rope, clots of coagulated blood in the cellular tissue, and a peculiar condition of the carotid artery. Above the spot where the right carotid communis branches off, the inner coat of the external carotid was divided, both sections had shrunk till they were about half an inch apart, and between them a thin layer of coagulated blood was found on the corresponding surface of the middle coat. This division of the inner coat, or of both the inner and middle coats of the carotids, as well as a hæmorrhage from the vessels which run along the coat of the carotids, may be considered as a very characteristic symptom of death from strangulation or hanging. It is caused by the torsion of the vessel. Both carotid arteries are generally found to be affected in a similar way. If a hæmorrhage from the carotid is found (this may occur whether the coats are divided or not), it is a sign that the strangulation was effected while the individual in question was alive, because hæmorrhage can only take place while the circulation still exists.

PHYSIOLOGY.

RECENT PAPERS.

1. BERT, PAUL.—On the Condition of Carbonic Acid

in the Blood. (Abstract in the *Med. Press and Circular*, December 4, 1878.)

2. BLANCHIER AND BOCHFONTAINE.—On the Physiological Condition of Sodium Salicylate. (*Gaz. Méd. de Paris*, January 18, 1879.)

3. CHAUVEAU.—The Transmission of Stimuli in Nerves. (*Acad. des Sciences*, July—August 1878. Abstract in *Le Progrès Médical* for January 1879.)

4. DASTRE AND MORAT.—The Results of Stimulating the Cervical Sympathetic. (*Revue Internat. des Sciences*, No. 14, 1878.)

5. ENGELMANN.—The Electric Phenomena in Muscle and Nerve. (*Arch. Néerland de Sci. Exact. et Nat.*, vol. xiii, livraisons 4me.)

6. ENGELMANN.—The Influence of certain Tissues upon the Electromotor Power of Muscles. (*Arch. Néerland de Sci. Exact. et Nat.*, vol. xiii, livraisons 5me.)

7. MAREY.—The Graphic Method in Medicine. (*Bull. de l'Acad. de Méd.*, No. 24, 1878.)

8. NOYES, R. F.—The Cæcum and Appendix Vermiformis. (*Boston Med. and Surg. Journ.*, November 7, 1878.)

9. TERRILLON.—New Details in relation to the Anatomy and Physiology of the Knee-joint. (*Journ. de l'Anat. et de la Physiol.*, January and February 1879.)

10. VULPIAN.—Secretions. (*Acad. des Sci.*, September 30, 1878.)

11. WHITTAKER.—The Physics of Conception. (*Cincinnati Lancet and Clinic*, No. 24, 1878.)

12. The *Journal of Physiology*, No. 6, vol. i, containing papers by Messrs. Cutler and Bradford, upon the Changes of the Globular Richness of the Blood; Drs. Vaughan and Bills upon the Estimation of Lime in the Shell, and in the Interior of the Egg, before and after Incubation; Messrs. Ringer and Moreshed on the Physiological Action of Narcissia, an Alkaloid obtained from the Bulb of the common Daffodil (*Narcissus Pseudo-Narcissus*); Dr. Roy on the Influences which modify the Work of the Heart.

1. The Condition of Carbonic Acid in the Blood.—

It has hitherto been a disputed point whether the carbonic acid in venous blood is combined with the alkalies, or is simply dissolved. The analytical processes which have been hitherto tried have only given uncertain results. The well-known French physiologist, M. Bert, has conceived a method which he believes to eliminate every source of error. It consists in comparing the quantity of gas contained in the blood with that which the latter would contain if it were saturated. The conclusions at which he has arrived are, that the blood never contains in the system a sufficient quantity of carbonic acid to saturate the salts, carbonates and phosphates, which can absorb it, and that if this limit be reached, death infallibly follows. The liberation of carbonic acid from the blood is, therefore, the effect of a veritable dissociation of these salts, and the same conclusion may be repeated as true of the animal tissues.

2. The Physiological Action of Sodium Salicylate.

—MM. Blanchier and Bochefontaine have studied the physiological effects of sodium salicylate upon the frog. The drug introduced beneath the skin of the foot, either as a salt or as a concentrated solution, acted rapidly by enfeebling the central nervous system. Nervous movement and muscular contraction were unaffected by salicylate of soda, and they remained for some time after death, caused by a poisonous dose of the substance. More recent investigations have been directed to the effect of salicylate of soda upon the heart, and the method of its elimination from the organism by the various secreting organs of the body. The experiments have been made partly upon the healthy human subject,

partly upon the dog, either in its normal condition, or after it had been curarised and subjected to artificial respiration. In man, the salicylate was administered in doses of one to two grains, either by injection into the saphenous vein, or in a neutral solution in a sufficient quantity of water by intrastomachal ingestion. The presence of salicylate of soda in the excretions has been detected by means of perchloride of iron, which gives a characteristic violet colour, when brought into contact with salicylic acid. The conclusions which have been arrived at by these methods of investigation are as follows. Salicylate of soda renders the various secretions, and especially the salivary secretion, more active. When directly mingled with the blood in the dog, it appears in the saliva at the expiration of four or five minutes; in the urine after eight to ten minutes; in the pancreatic juice and bile in about fifteen or twenty minutes. From the stomach it passes into the saliva in twenty minutes, into the urine in three quarters of an hour, and into the bile and pancreatic juice only after a still longer interval. In man, salicylate of soda taken into the stomach does not reappear in the saliva. It is at first eliminated by the kidneys, as M. Germain Sée has already shown. Salicylic acid can be detected in the urine eighteen to twenty minutes after ingestion. Salicylate of soda is eliminated rather more rapidly from the human organism than from that of the dog. The hypersecretion of the saliva induced by salicylate of soda is not due to the direct action of the salt upon the secreting organs, but is owing to its action upon the grey matter of the central nervous system, as is shown by the fact that the hypersecretion ceases when the nerves which connect the grey matter with the submaxillary organs are severed. Salicylate of soda in large quantities affects the heart, modifying first the rhythm and number of its beats, and then arresting its movement.

3. *The Transmission of Stimuli in Nerves.*—M. Chauveau has made a series of experiments in regard to the transmission of stimuli along the nerves supplying striated muscle, which is not subject to the influence of the will. He has found that direct stimulation of the muscular tissue of the œsophagus, above and below the neck, causes contractions of the same form and amplitude, whilst the commencement is at the same instant in relation to the time of stimulation. If the vagus be stimulated above the origin of the motor nerves of the œsophagus, the contraction of the lower portion of the œsophagus appears after a certain delay, which is very marked, and is due to the fact that the nerves supplying this part are longer than those supplying the upper portion of the œsophagus. The duration of this retardation, compared with the difference in length of the nerves, allows of an estimation being formed as to the rapidity of the transmission of nervous impulses in the motor nerves supplying the upper portion of the œsophagus. From the data thus arrived at, it is stated that the rate of transmission is not more than eight mètres per second, although it exceeds 65 mètres in the nerves which supply the muscles of the face and larynx. The rapidity of transmission in the motor nerves of involuntary muscle is, therefore, eight times less rapid than in nerves of identical structure, which supply muscles subservient to the will.

4. *Results of stimulating the Cervical Sympathetic.*—The experiments made by MM. Dastre and Morat upon horses have led to the same results whether the animal was under the influence of chloral, or was

not anæsthetised. The arterial pressure in the carotid and facial arteries was registered. Section of the cervical sympathetic was found to cause a dilatation of the vessels of the periphery. Stimulation of the peripheral extremity of the divided nerve with tetanising currents caused elevation of the arterial, and diminution of the venous, pressure, the latter being preceded by a short rise in the venous pressure. The rapidity of the blood current in the carotid was markedly lessened during the continuance of the stimulations. Investigating the variations in the vascular pressure and temperature by means of a thermoelectric sound, MM. Dastre and Morat find that the thermal effects of stimulation may be summed up as follows. 1. A chilling of short duration, and of slight amount; 2. A considerable and prolonged rise in temperature. Under the same conditions, the variations in the blood pressure are, a phase of constriction, causing the rise of arterial and fall of venous pressure already alluded to, which is always well defined. This is followed by a dilatation, marked by a fall of pressure in the artery, and a corresponding rise in the vein, which only becomes clearly perceptible after the application of very strong stimuli. This phase is remarkable more for its duration than for its intensity.

5. *The Electric Phenomena in Muscle and Nerve.*—Professor Engelmann believes that he has been able to demonstrate the absence of any external electro-motor power in the ordinary muscles of animal life, in the minute cells of the heart muscle, in unstriated muscular fibre, and in nerves. The result which he has thus obtained is valuable in relation to the theory of the electrical condition of nerve and muscle, though it is not to be understood as being in opposition to the theory of pre-existence.

6. *The Influence of Certain Tissues upon the Electro-motor Power of Muscles.*—Professor Engelmann considers the influence of the blood and nerves upon the electromotor power of artificial transverse sections of muscle. He finds that the negativity of a transverse section of muscle diminishes more rapidly under the nutrient influence of the blood than would be the case if such a condition was absent; whilst, on the contrary, a renewal of the section produced a marked increase of force. This increase showed itself more decidedly in proportion as the new transverse section was made at a greater distance from the original cut, due, as Professor Engelmann supposes, to the tardy setting-in of death along the muscle tubes. In monomeric muscles which had been excised, and had thus been withdrawn from the influence of the circulation, the force manifested was only very slowly dissipated, whilst the renewal of the section produced an almost inappreciable effect. When the effects of the circulation of the blood had been eliminated by removing the heart in frogs it was found that the latent force was lowered, other things equal, a little more than in those cases in which the circulation proceeded as usual, whilst the energy exhibited was much more considerable than usual. The influence of the nerves is an important point in considering any explanation of the changes which occur in the manifest energy exhibited by muscles *in situ*, as compared with those which have been excised. In the latter case, the muscles are withdrawn from the influence of the central nervous system, as well as from that exercised by the blood and lymph, or, in other words, they cease to be stimulated. But alternations of repose and activity appear to be necessary to the preservation of the irritable organic elements

in their integrity. It may, therefore, be fairly supposed that the maintenance of a connection between the muscle and nerve centres will contribute to render an artificial transverse section inactive, since such connection implies an intermittent stimulation of the muscle. After section of the nervous supply of a muscle the manifest energy decreases, both absolutely and in relation to the latent energy, much more slowly than when the muscle remains in connection with the nervous system. This decrease may be taken, as a general rule, to occur almost one half as slowly. The author concludes, therefore, that in preserving the vital connection of the muscle with the nervous system, as well as in the preservation of the circulation of the blood, certain conditions are implied which tend to destroy the electromotor activity of artificial transverse sections, and that in normal muscle in a state of repose there exist no perceptible differences of electric tension.

7. *The Graphic Method in Medicine.*—M. Marey finds that two instruments, the outcome of recent physiological investigations, are of great use in diagnosis. Of these, the first is the myograph, which registers the movements of muscles, and the second the cardiograph, which gives a definite form to the heart-beat. M. Marey warns investigators against admitting to too great an extent the absolute identity of functions in beings which do not present identical organic structure. For experiment shows that in certain points important functional differences exist in two mammals of different species, as, for instance, the dog and the rabbit, and there can consequently be no complete assimilation between animal and human physiology. By means of the myograph it has been shown that healthy human muscle gives a similar trace whilst contracting to animal muscle. In respect to its absolute duration, however, it differs somewhat; thus it is four or five times longer than that obtained from the muscular contraction of a bird, whilst it is ten times shorter than that from the tortoise, or from a mammal which is hibernating. Individual variations occur also in the characters of the contraction due to age, sleep, fatigue, temperature, etc. Tetanus may be produced by electric stimulation just as in animals, and it is subject to the same laws. By means of the myograph certain muscular affections, such as convulsions, tetanus, palsy, and partial paralysis may one day be analysed. Thus senile trembling, and that which follows upon the administration of certain poisons are to be referred to the physiological state of the muscles, and appear to be caused by a series of incompletely fused muscular contractions. By means of the cardiograph it has been shown that the beat of the heart coincides exactly with the commencement of the ventricular systole. By its means, also, much more precise information in regard to the actual condition of the heart and arteries can be obtained than can ever be looked for from auscultation, percussion, and palpation combined; for the signs afforded by these latter methods are not always in direct relation to the gravity of the lesions which give rise to them, or even with the actual affection of the circulation. The graphic form, on the contrary, translating the method in which the heart and vessels empty or fill themselves, expresses directly the condition of the circulatory system. In a heart which yields intense *bruits de souffle*, the curve is sometimes only slightly modified, showing that the cardiac function is but little impaired. At other times, extremely grave lesions, such as insufficiency of the aortic valves, amounting to almost entire de-

struction of the valves, may pass almost unnoticed, if auscultation be alone employed; but the beat of the heart, as seen in the cardiograph trace, then exhibits a characteristic change; the filling occurs with extreme rapidity, owing to the reflux of arterial blood, which takes place at the termination of the ventricular systole. The diagnosis of aneurisms of the aorta and large trunks can also be made with great precision by the use of the graphic method.

8. *The Cæcum and Appendix Vermiformis.*—Dr. R. F. Noyes considers that the size of the cæcum, its position in the abdominal cavity, the arrangement of the peritoneum upon its anterior and lateral surfaces only, the collection of cellular tissue upon its posterior surface, the attachment of a rudimentary appendix, the connection of the small ileum on the one hand, and with the ascending colon, yet smaller than itself, on the other, tend to render this organ of peculiar interest. The absence of villi, the corrugated condition of the mucous membrane produced by the peculiar and comparatively tense arrangement of longitudinal muscular fibres, and the position of the ascending colon, indicate at once the performance of functions distinct from those going on in the ileum above, and imply that its contents must pass slowly through this portion of the large intestine. The mechanical, chemical, and catalytic action of digestion are not sufficient to reduce to a fluid and absorbable condition all substances which may be introduced into the alimentary canal as food, or with the food. Seeds pass directly through unchanged, and under proper conditions germinate. The epithelium layer of various cereals, and the tough and elastic portion of animal tissues, almost always pass undigested. The activity of the villi and lacteals is so great that the contents of the small intestine suffer at once great depletion, and eventually nothing but a brownish gruelly material remains, which, together with indigestible substances, is forced through the ileo-cæcal valve into the cavity of the cæcum. The exact function of this viscus is not exactly understood. Its secretion and that of the appendix vermiformis appears to be alkaline in its reaction, and has for its office the conversion of starch into sugar, the semi-liquefaction of the fæces, and the lubrication of the large intestine. The lactic and butyric acids so generally present are accounted for by the decomposition of the saccharine materials. Within a short time the contents of the cæcum assume a faecal odour. This is not due to a decomposition of its contents, or to any putrefactive change, but according to Tiedmann and Gmelin is dependent upon the secretion of a volatile oleaginous material. Here, too, sulphuretted hydrogen is generated. The derangements of the cæcum and its appendix are naturally divisible into—functional disturbances, inflammation of its walls (typhilitis), perforating ulcer of the cæcum, perforation of the cæcum and its appendix from foreign bodies, and perityphilitis. The cæcum at times becomes enormously distended. This tension may depend upon a torpid and distended colon, upon a paucity of the cæcal alkaline secretion, or upon a weakened and debilitated condition of the cæcum itself. The difficulties dependent upon this distension may be enhanced by the pressure of calculi, cæctozæ, and foreign bodies. Ordinarily, from the impaction of fæces and accumulation of gas, pain in the right iliac fossa, more or less paroxysmal in character is complained of. Vomiting is frequently observed. Pain and numbness of the thigh, retraction of the testicle, and frequent micturition, are sometimes present, depending upon

irritation of the last dorsal, and genito-crural nerves.

9. Dr. Terrillon finds that the cartilaginous surface of the lower extremity of the femur is divided into two zones, the one superior and corresponding to the patella, the other inferior and cylindrical, placed in apposition with the tibia and semilunar fibrocartilages. The groove which separates these two surfaces is scarcely perceptible in embryonic life: it increases with the growth of the body, and becomes very clearly marked in the adult, whilst it is so well defined in old age as to resemble a severe injury to the cartilage. The cartilage tends partly to disappear at its summit. The groove or depression is double, one being situated upon each side of the great intercondylar notch. At the apex of the notch the groove ceases. The formation, from an anatomical point of view, takes place by the continual pressure of the thickest portion of the corresponding semilunar cartilage. These grooves appear to act principally in conjunction with the ligaments in limiting the movement of extension by fixing the semilunar cartilages, which they partly receive. By means of this arrangement, the semilunar cartilages act as wedges strongly compressed between two rounded surfaces, which play one over the other. The action of the ligaments which limit extension is thus lessened, and they are not continually in action, whilst at the same time greater stability is afforded in the extended position. The part which they play in the squatting position is also important.

10. *Secretions*.—A note by M. Vulpian shows that abundant sweat secretions are dependent upon hyperactivity of the capillary circulation. This fact is exemplified in the profuse sweatings which may occur in the case of persons with anæmia or even cyanosis of the skin, and is confirmed by the experiments of the author. An abundant secretion of sweat occurs on the plantar surface of the paws, after stimulation of the peripheral extremity of the divided sciatic nerve. The secretion coincides in point of time with a marked contraction of the vessels of the whole extremity, and consequently with a considerable lessening of the blood-supply of the limb. At the instant when death occurs, and the heart is on the point of stopping, its movements being already very weak, a secretion of sweat is commonly to be noticed upon the digital paws of cats. At this time, if the surface is freed from pigment, it is seen to be pale and bloodless, and to be covered with drops of sweat. The secretion is caused by the transient stimulation of the nerve centres of organic life, ganglionic as well as central, at the moment when the centres of animal life suffer death. It is not difficult to prove that the stimulation emanates from the nervous centres, and is transmitted to the excito-sudoral nerve-fibres, for if the sciatic nerve of a cat be divided transversely before the phenomena in question be studied, it will be found that the sweating occurs over the whole body at the instant of death, with the exception of the hind limb of that side upon which the nerve was divided.

11. *The Physics of Conception*.—Exceedingly important results in relation to the changes which the ovum undergoes before and after impregnation have been recently obtained in Germany by Bischoff, Van Beneden, and others, who have examined the condition of the egg under these circumstances in the frog, rabbit, and, amongst the invertebrata, in certain fresh water leeches and asterids. These results have been shortly described by Dr. Whittaker, who shows that the single cell of which the egg primi-

tively consists may undergo a process of division (segmentation) before it has been brought into contact with the spermatozoa. As soon as a cell is ready for division, its nucleus becomes greatly elongated and spindle-shaped, whilst a number of radiating lines appear on its surface. Each one of these lines shows in its middle a thickened portion composed of five granules, which collectively form a plate, the so-called nucleus plate or middle plate. At the same time a clear drop of cell plasma, or fluid, separated from the protoplasm, appears at the end of each thread. These clear drops are the first intimation of the later nuclei of the two cells—daughter cells—into which the original cell divides. The protoplasm of the cell arranges itself so as to give rise to the appearance of rays, which extend outwards from the bright drops. Two wheels, one from each end of the elongated nuclear plate, are thus formed, being held together by the body of the nuclear plate in the middle of the whole cell. In the meantime, the nuclear plate has commenced to divide across the middle, so that each half includes one of the wheels. The middle of the nuclear plate then gradually disappears, and the two nuclear plates fuse with the bright protoplasmic drops. At the same time the protoplasm becomes constricted by a furrow which cuts through, and the two cells are complete. In the egg, all the outer covering consists of mucus derived from the genital tracts along which the ovum has passed. Through this mucous layer the spermatozooids pass by their innate mobility to effect impregnation. A disproportionately large number—71 to 80—of spermatozooids surround each ovum, but it is only the individual spermatozoid which accidentally strikes the egg in a line with the radiated arrangement of the mucus covering which first reaches the yolk. At the moment when this penetration is effected, the yolk suddenly projects an elevation towards the head of the spermatozoid. The projection of the yolk surrounds the head of the spermatozoid, and draws it rapidly into the interior of the ovum. The point of entrance is marked by a slight depression, in place of the elevation at the surface of the yolk, and at the same instant a fine, delicate, but very resistant membrane immediately covers the whole surface of the yolk, thereby preventing the penetration of other spermatozooids. The tail of the spermatozoid disappears after it has gained an entry into the yolk, and the head alone remains. About this head clear drops of protoplasm associate themselves to constitute the so-called sperm nucleus. The sperm nucleus then moves towards the egg nucleus, touches it, and fuses with it. The resultant nucleus is, therefore, composed of both male and female elements; it is the essential product of impregnation, and the whole egg represents a new organism resulting from the union of the two ancestral forms. The further process of development of this simple organism consists in the fact that the nucleus undergoes the same metamorphoses as have been already described for the primitive cell. Thence arise from the single cell two, four, eight, sixteen, and so on, till the original cell is subdivided into a mass of small daughter cells, which arrange themselves into three layers to form ultimately the whole complicated organism. In the case of eggs provided with a proper zona pellucida, an opening, the micropyle, exists for the entrance of the spermatozoid. The cell wall is often penetrated also by fine radiating canals, which are closed by prolongations into them of the yolk.

D'ARCY POWER.

OPHTHALMOLOGY AND
OTOLOGY.

OPHTHALMOLOGY.

RECENT PAPERS.

1. ANGER.—Tuberculosis of the Eye. (*Gazette des Hôpitaux*, No. 10, Jan. 25th, 1879.)
2. AUGIER.—Colour Blindness. (*Index Bibliographique*, Paris, 1878.)
3. BOUCHUT.—Review of Ophthalmoscopic Cerebroscopy for the year 1878.
4. BRIERE.—On the Employment of the Syphon in Purulent Ophthalmia. (*Ann. Méd. de Caen*, No. 1. Dec. 1878.)
5. COURSSERRANT.—Some Words on the Treatment and Etiology of Stricture of the Nasal Canal. (*Journal des Connaissances Médicales*.)
6. CUIGNET.—Kératocèle, Iridocèle, Phakocèle, and Petrocèle. (*Recueil d'Ophthalmologie*, Paris, Jan. 1879.)
7. FAVRE.—On the Treatment of Congenital Daltonism. (*Société de Méd. de Lyons*, Dec. 1878.)
8. FIEUZAL.—Statistics of Retinal Affections. (*Année Méd. de Caen*, No. 3, Dec. 1878.)
9. FIEUZAL.—Hysterical Amblyopia. (*Le Progrès Médical*.)
10. GALEZOWSKI.—Febrile Herpes of the Cornea. (*Revue Ophthalmologique*.)
11. GALEZOWSKI.—Congenital Amblyopia and Amaurosis. (*Ibid.*, Jan. 1879.)
12. Upon the Alterability of Calomel and the Precautions to take in its Employment in Therapeutics. (*Gazette Méd. de Paris le Mon. Méd.*, No. 52.)
13. HOTZ.—Hernia of the Cornea: Action of Eserine and Pilocarpine. (*Chicago Med. Journal*.)
14. LUNDY.—Optic Neuritis, with notes of three Cases. (*Detroit Lancet*, Vol. i, No. 12, Dec. 1878.)
15. MONOYER.—Double Congenital Cataract. (*Gazette des Hôpitaux*, No. 2, 1879.)
16. NICATI.—Cataract and Dental Lesions. (*Revue Mens. de Méd. et Chir.*, No. 1, Jan. 1879.)
17. REULING.—Extraction of Cataract with the Lenticular Capsule. (*New York Med. Journal*, No. 1, 1879.)
18. SCHELL, Surgeon to Wills (Ophthalmic) Hospital, and Ophthalmic Surgeon to St. Mary's Hospital, Philadelphia.—Cause and Prevention of Squint.
19. TAMANICHEF.—On Extraction and Reabsorption of Cataract. (*Gazette des Hôpitaux*, No. 6, Jan. 16, 1879.)
20. WALKER.—On the Treatment of Sympathetic Ophthalmia. (*Liverpool*, 1878.)

1. *Anger on Tuberculosis of the Eye*.—This case was that of a young woman with vaginitis and syphilis, in which syphilitic iritis of the left eye manifested itself in the secondary period. The ophthalmoscopic observations were not sufficient for the rapid loss of vision which followed the development of the disease.

2. *Augier on Colour Blindness*.—The author holds that colour blindness arises from the cessation of contact between the surface of the vitreous body and the walls of the hyaloidean cavity. He gives a methodical description of colour blindness, and treats of its genesis, which he traces to different mechanisms, viz., colour blindness by ablation, by compression, by retraction. From the anatomo-pathological point of view, he connects the various forms of colour blindness with two principal types, according as the adherence of the vitreous body to the optic papilla resists or is ruptured. He describes the numerous varieties, and distinguishes equally the concomitant lesions of the part from the other membranes of the eye.

3. *Revue d'Ophthalmoscopie et Cérébroscopie, pour*

l'Année 1878.—In cerebro-spinal maladies, the effects are produced in the centre of the eye from lesions of the circulation and nourishment of the papilla, of the retina, and of the choroid. 1. The mechanical action exercised on the circulation of the sinuses of the dura mater and meningeal veins by inflammation, intracranial effusions, and tumours, where the serous suffusions of the sheath of the optic nerve chokes this nerve in its passage. 2. Inflammation of the substance of the brain situated in the vicinity of the optic nerve, and descending to the chiasma and the papilla. 3. Certain maladies of the spinal marrow which, through the medium of the great sympathetic, act upon the papillary circulation. Several observations are given upon cases which confirm those which have already been published by the author.

4. *Brière on the Employment of the Syphon in Purulent Ophthalmia*.—The author employed the syphon in 48 cases of purulent ophthalmia, 44 of which were successful. Three at least of the four unsuccessful cases might have been avoided if Dr. Brière's instructions had been carried out. He is convinced that the utility of the syphon would be quickly recognised if more generally used by the profession.

5. *Courserrant on the Nasal Canal*.—Dr. Courserrant inquires whether catheterisation should be resorted to when there exists a certain degree of catarrh of the sac. He believes that catarrh of the sac is very often primary, and that the inflammation, instead of proceeding from the bottom upwards, proceeds from the sac along the nasal canal. Operating on this principle, he freely cuts the inferior lachrymal conduit (in preference to the superior) as far as the mouth of the sac. This operation permits the muco-pus seated in the affected cavity to detach itself freely outwards, at the same time that the lachrymal secretion thus brought in contact with the affected cavity cleanses and lubricates the walls. In conclusion, the author calls attention to the etiology of certain cases of stricture of the nasal canal; and remarks that Dr. Badal has justly insisted on the frequency of the alterations of the lachrymal passages in individuals subject to defects of refraction.

7. *Favre on Congenital Daltonism*.—M. Favre opposes the theory of Thomas Young, and which was adopted by Helmholtz, that the false appreciation of colours is incurable. He cites in this paper three cases, where, by the rational treatment of Daltonism, the subjects were cured. The first case was that of a ship's stoker, aged 21 years, who presented the characteristics of grave Daltonism—confusion of red and green, also that of blue and violet. He was exercised four times a week for 20 minutes each time, during March 1877, and was perfectly cured in May of the same year. The second case was that of a young child, and the treatment, commenced 5th September 1855, only terminated 20th March 1877, after several failures. The third case was that of a man of 30 years, formerly a soldier, who, having been early sensible of the defect in his sight, so well concealed it that, after four years of married life, his wife was unaware of it. This man presented, when he was examined, 6th December 1876, erroneous impressions of all the colours excepting yellow, which he yet sometimes hesitated to recognise. Practised during a certain time, he gradually, but very slowly, came to distinguish the colours clearly, and in May 1878 he successfully underwent the tests to which he was subjected. Observations made upon children

of both sexes, in asylums and infant schools, confirm the very great importance of practising upon colours in order to develop the chromatic sense.

8. *Fieuzal on Statistics of Retinal Affections.*—In 153 patients afflicted with retinal affections that M. Fieuzal has observed in his clinic, he has found retinal hyperæmia registered 15 times (accompanied with hyperæsthesia of the retina, and seated generally in the eyes); anæmia, or retinal ischiæmia, three times (in young children subject to metrorrhagia); serous retina 13 times, exudations six times, parenchymatous three times, interstitial once; apoplectic seven times, from Bright's disease in four, and glycosuria in three; hæmorrhagic 14 times, thrombus of the veins once, retinal embolism twice, syphilitic retina 32 times (under the form of choroidoretinitis 23 times), retinitis pigmentosa 14 times, the displacement of the retina 32 times, retinal asthenopia 10 times.

9. *Fieuzal on Hysterical Amblyopia.*—Dr. Fieuzal describes a case treated successfully by means of metallotherapy by M. Charcot. The details of the treatment are as follows. 1. Internally, 15 drops of chloride of gold, increasing the dose two drops daily till the maximum dose of 45 drops is reached. 2. Application upon the right forearm of a bracelet of gold, and three pieces of gold on the forehead. The patient could not support this application by day, the bracelet inducing somnolency; and, at night, nightmare, which ceased when the bracelet was removed. The author thinks that sufficient importance has not been given to this mode of treatment, which the researches of Burcq, extending over a period of about thirty years, have originated.

10. *Galezowski on Febrile Herpes of the Cornea.*—From a nosological point of view there exists, according to Dr. Galezowski, four descriptions of herpes. 1. Traumatic herpes; 2. Spontaneous neuralgic herpes; 3. Constitutional herpes; and 4. Febrile herpes.

11. *Galezowski on Congenital Amblyopia and Amaurosis.*—It is found often associated with convergent strabismus, and, according to the statistics of M. Berlir (*Wurtemberg Med. Correspondenzbl.*, Nov. 16, 1870), of 225 cases of strabismus, there were registered 215 of monocular strabismus, and 16 of alternating strabismus. Of this number, 72 suffered from congenital amblyopia more or less pronounced. The different varieties of amblyopia Dr. Galezowski classes under—1. Congenital monocular amblyopia, with or without convergent strabismus. 2. Binocular congenital amblyopia. The symptoms of these he characterises as being: 1. Diminution, or complete loss of central vision; 2. Diminution of the peripheric visual field; 3. Partial dyschromatopsy; 4. Ophthalmoscopic changes; 5. Hereditary symptoms, which he describes, affecting several members of the same family.

12. *Upon the Alterability of Calomel.*—Referring to the observations of M. Jolly, the writer states that the practical conclusion arrived at by him is that, in administering calomel internally, it is necessary to avoid associating this salt with acids, alkalines, chlorides, and unrefined or raw sugar.

14. *Lundy on Optic Neuritis.*—Dr. Lundy relates three cases, arising, he believes, from basilar meningitis, tertiary syphilis, and embolism; all of which recovered.

15. *Monoyer on Double Congenital Cataract.*—This is a case where, at the moment of birth, the pupil was cataractous, but the child had perception of

light. Discision was practised, and the child was able to see in six weeks.

16. *Nicati on Cataract and Dental Lesions.*—M. Nicati reviews the different hypotheses of this variety of cataract and the maladies of infancy, and cites an observation by Becker of total cataract in an infant aged 2 years, which establishes a relation between certain forms of total cataract in early infancy and rachtism. Proceeding to the second part of his subject, he observes that teeth of the second growth frequently present anomalies of structure which accompany zonular cataract. These are—1. Absence more or less of enamel; 2. Alteration of the ivory, the disposition of which, normally tabulated, has become globular; 3. Normal state of the neighbouring tissue. Finally, the opinions of Schmidt, Becker, and Turner, as to the coincidence of cataract with dental lesions, are reviewed.

17. *Reuling on Extraction of Cataract with the Lenticular Capsule.*—Dr. Reuling describes the operation as follows. 1. A large linear incision in the limbus cornea, the points of the in- and excision being within the sclera; the incision to be larger than that of the Graafe, because the lens is to be removed in its totality. 2. Iridectomy, also large, as the lens and capsule have to pass. Care is also to be taken to replace the margins of the coloboma. 3. Pressure to be exerted by means of fixation forceps applied near the inferior corneal margin, opposite to the superior corneal incision, and the pressure to be also simultaneously applied on the upper normal margin by means of the finger or Daviel's spoon. If the lens, however, does not appear, then, 4. The spoon is to be introduced gently along the posterior surface of the capsule, between it and the hyaloid, care being taken not to lose the attachment between the posterior capsule and the spoon; and to make this attachment firmer, it will be advisable to incline the handle slightly, thus pressing the anterior capsule against the corneal surface; 5. By a careful traction the lens is then to be delivered in its capsule.

18. *Schell on the Cause and Prevention of Squint.*—The operation for convergent strabismus is, according to Dr. Schell, never absolutely satisfactory. It is not easy to obtain a perfect parallelism of the optic axis, and, even if the rectification be exact, there is generally left a disagreeable staring appearance about the eye, owing to a sinking of the lachrymal caruncle. Yet, even supposing that the appearance of the eye after the operation is everything that could be desired, there remains the result that binocular vision is seldom obtained, and the affected eye, for the most part, is blind or nearly so. In this paper, the author examines into the causes of strabismus, in order to avoid the operation. Badel reports that 20 per cent. of all the cases at his clinic are ametropic. Of these, 30 per cent. have hypermetropia under one dioptric, 20 per cent. from one to two, 12 per cent. from two to three, and 5 per cent. from three to four. Dr. Emil Enomert has examined the eyes of 2,148 students of from 5 to 25 years in the cantons of Berne, Solothurn, and Neuremberg, and found that, of this number, 76.2 per cent. were hypermetropic. Dr. Max Conrad examined the eyes of 3,036 students from 6 to 18 years of age in Königsberg. He states that at 6 years of age, 70 per cent., and at 18 years of age, 23 per cent., are hypermetropic. As the number of children affected with strabismus assumes no such proportions as these, other causes than deficiency in the refractive power of the eye must be concerned in the production of

squint. Speculating upon some of these causes, Dr. Schell gives the result of experiments made upon 20 emmetropes by means of Nachet's *prisme mobile*. The conclusions arrived at by the argument in this paper may be formulated as follows. 1. Convergent strabismus occurs in those cases of hypermetropia where the external recti muscles, as compared with the internal recti, are weaker than the average. 2. To prevent it and the consequent amblyopia, we must use glasses to correct the total hypermetropia as soon as the squint makes its appearance.

19. *Tamanichef on Extraction and Reabsorption of Cataract.*—This is a continuation of a former article, and reports a case of a man, 48 years of age, of a strong plethoric constitution, who had a cortical cataract of the left eye, for which was prescribed proto-iodine of mercury, which he took for a month and a half with good results. The treatment interfering with the patient's occupation, it was discontinued, and iodide of potassium given internally. Three or four months of this treatment was continued, when the patient began to read large typographical characters, but died suddenly from apoplectic seizures. This and other well-known cases the author considers prove the absorption of the opacified crystalline in cases of cortical cataract. In explanation of this mode of treatment the author states that the remedies pass through the general circulation into the liquids of the eye, and operate immediately upon the inflammatory process of the crystalline. He quotes several cases, both in his own practice and in others, where cataract was spontaneously reabsorbed without any other lesions of the eye, with a view of calling attention to the different phenomena which the eye presents under the influence of internal remedies.

20. *Walker on the Treatment of Sympathetic Ophthalmia.*—Dr. Walker reports the successful treatment of a case of sympathetic ophthalmia by mercury. The patient was salivated in two days, after which the eye got well faster than any inflammation comparable to it in violence the author had ever seen. In a few days, the man could see to read the time by a watch with a convex glass of 10, and the improvement continued daily to increase.

OTOLOGY.

1. DELSTANCHE, Jun., of Brussels.—On the Osseous Tumours of the External Auditory Meatus. (Brussels, 1879.)

2. BÜRKNER.—Remarks on Intermittent Sound Perception through the Cranial Bones. (Göttingen.)

3. TRAUTMANN, F.—The Embolic Affections of the Organ of Hearing. (*Archiv für Ohrenheilkunde*, Band xiv, Heft 2.)

4. TRAUTMANN, F.—Traumatic Affections of the Jaw. (*Ibid.*, Dec. 1878.)

1. *Delstanche on the Osseous Tumours of the External Auditory Meatus.*—This treatise consists mainly in an argument in favour of the surgical rather than the medical treatment of the disease, and the author seeks to support his hypothesis by reporting at length numerous observations made by himself and others, giving much information on the subject. Amongst the causes to which may be traced the development of these tumours, those most plainly indicated are hereditary predisposition, inflammation or irritation, spontaneous or traumatic, primary or secondary, of the bone or periosteum of the cavity. As to the influence of the rheumatic,

gouty, and syphilitic diathesis, the author states it is not yet thoroughly established.

2. *Bürkner on Intermittent Sound Perception through the Cranial Bones.*—Dr. Bürkner relates some cases in which the above peculiarity was well marked, and, after reviewing the observations which have been already made upon the point, is forced to disagree with Politzer, who contends that there is no relation between the hearing distance of the watch or speech, and the perception of the fork on the bones; and he concludes that the intensity of the sound-perception through the cranial bones, when not constant, has, at least in middle-ear catarrh, a direct relation to the hearing of aerial pulsations.

3. *Trautmann on the Embolic Affections of the Organ of Hearing.*—Trautmann divides the embolisms of the ear into two groups, 1, that in which the ear itself is the starting point for the embolic process; and, 2, that in which the embolic material passes into that organ from a distance. Of 13 *post mortem* examinations of cases of embolisms, in four the ear was affected, in nine it was free. The eye was implicated seven times, in two unaffected, and in four not examined. The internal ear, and the basilar and internal auditory arteries, were free in all the cases. The artery to the Sylvian fissure contained an embolism once on the left side, and once on both sides. The most common cause of the affection he found to be endocarditis, especially in the recent form. The puerperal state renders women liable to it, either during pregnancy or after confinement, and this Dr. Trautmann thinks accounts for the sudden high degrees of deafness and blindness which arise during that condition. Among the 13 cases above examined, two were in the puerperal state, both had retinal hæmorrhages, and one tympanic hæmorrhage. The functional disturbances arising in the ear from these embolic affections, are caused, he believes, not by the hæmorrhages, but from the fibrinous clots found in the cavity, either by filling that space, or fixing the ossicular chain.

4. *Trautmann on Traumatic Affections of the Ear.*—Dr. Trautmann relates a case of hæmorrhage into the membrana tympani by violent coughing, a case of double fissure of the membrane caused by a box on the ear, and a case of fracture of the petrous bone, of the upper osseous wall of the external meatus, and of the membrane, arising from a blow.

W. LAIDLAW PURVES, M.D.

MEDICAL CHEMISTRY.

RECENT PAPERS.

1. Zur Kenntniss der Phenolbildung bei der Faulniss der Eiweiskörper. Odernatt. (*Journal für praktische Chemie*, t. xxviii, p. 249.)

2. Phenol-Ausscheidung in Krankheiten. Brieger. (*Centralblatt f. Medicinischen Wissenschaften*, p. 545.)

3. Ueber die pathologische Phenol-Ausscheidung par Salkowski. (*Ibid.*, p. 581, etc.)

4. FINN.—Experiments upon the Formation of Glycogenic Matter and Sugar in the Liver. (*Wurtsburg Phys. Med. Verhandl.*, lxi.)

5. FORD.—On the Influence of Temperature upon the Transformations of Glycogen and Hepatic Sugar. (*New York Medical Journal*, January 1878.)

1. Baumann has shown that phenol is a product of the putrid fermentation of albuminoid bodies; and

Brieger has recognised it as a substance formed by putrid decomposition in the large intestine, and has extracted it from the fæces; 50 kilos of fæces have given 0.2496 gram of tribromo-phenol, 0.0708 of phenol. Nencki has shown that the odoriferous matter obtained by the fusion of albuminoid materials with potash, contains phenol, and with 40 grams of albumen has obtained 0.102 gram of phenol. Brieger and Salkowski have recognised that phenol is eliminated in variable proportion in different maladies, and that the normal quantity excreted by man in the twenty-four hours is from 0.015 gram. The weight of phenol eliminated may be taken as a measure of the intensity of the putrid decompositions occurring in the economy. It only remains to determine the quantity of phenol produced when the nature of the albuminoid materials is varied, the time required for their decomposition, and to ascertain the influence of temperature. The only researches of this nature are due to Baumann. This subject has been taken up by Odernatt. The putrefying liquids, after the addition of a sufficient quantity of acetic acid, are distilled in a tubulated retort so long as the liquid is precipitated by bromine water. Ordinarily, the solution is precipitated by bromine water, but the indol is precipitated at the same time as the phenol—the last becoming a crystalline, and the indol an amorphous deposit. This is the author's method: The distilled liquid is filtered, neutralised by potash, and agitated with ether. The ether is distilled off; the liquid remaining, after the addition of water, is placed in a retort, and, being saturated with potash, is warmed over a water-bath to expel any ether remaining. Distillation over a sand-bath is then carried on, and indol passes over into the receiver and is there precipitated by the addition of fuming nitric acid. It is then collected, and, after drying over sulphuric acid, is weighed as indol. The liquid remaining in the retort is saturated with sulphuric acid, and the phenol precipitated by bromine water in the state of tribromophenol.

Experiments were made with albumen of egg, of serum, of pancreas, and of muscle; and they showed that indol increases from the eighth to the twelfth day, and diminishes immediately; but that the quantity of phenol, on the contrary, increases always with the time.

We can then admit that, when there is a large quantity of phenol in the urine, there has occurred an absorption of elements which have been subjected for a long time to putrid decomposition in the intestine.

2. Brieger has tried to ascertain the intensity of the putrid fermentation developed in the intestine by the quantity of phenol contained in the urine. He has made these determinations in different diseases. The urine was distilled with sulphuric acid, and the phenol precipitated by bromine water.

In the healthy man on a mixed diet Brieger has ascertained that the mean elimination of phenol varies from 0.0158 to 0.050 gram of tribromophenol. The excretion of phenol is not parallel to that of indican. In many diseases (peritonitis) there is an increase both of indigo and indican; in others (anæmia) we remark the diminution of phenol, and the increase of indican. It is the same thing in catarrh of the stomach, whilst in cancer there is augmentation of phenol: in two cases, 0.025 gram phenol; in two others, 0.061 gram. In phthisis, mean of three cases, 0.015—almost normal. In two cases of ty-

phus, only traces. Cholera morbus, one case, 0.052 gram. Peritonitis (tuberc. ac.), two cases, mean, 0.0138 phenol. Diphtheritis in child 2½ years, a mean of 0.015. Tetanus in a young man, 0.2195; rheumatismal tetanus, 0.013 gram phenol. In septic diseases, there is an increase of phenol. Empyema with pleural fistula, the second day, 0.3112 gram; third day, 0.6309; fifth day, absence of fever, 0.0226; ninth day, 0.1098.

3. Salkowski draws attention to experiments made by him on the same subject, in which he finds the mean of the phenol excreted, admitted by Brieger as normal, is in reality too low.

4. The experiments made with rabbits on different carbohydrates and glycerine confirmed those of previous observers. The negative result with inuline may be understood by taking into consideration the long time it requires to be converted into sugar in the intestines of the rabbit.

Fibrine afforded no results with rabbits, but gave notable quantities with dogs and cats. Polarization gave as a result for the glycogen obtained from sugar of raisins 178°, for that of levulose 168°, for that of glycerine 160°, and for that of white of egg 163°. The numbers are not farther apart than those for glycerine itself.

When glycogen is boiled with hydrochloric acid the theoretic quantity of sugar is not obtained. A fourteen hours' digestion with saliva of three sorts of glycogen examined furnished 44 to 48 per cent. of sugar; with a digestion of seventy-eight hours, 78.4 per cent. was found. All the glycogens are, therefore, probably identical.

The transformation of glycogen into sugar is more easily effected by the fermentation of the liver itself than by an acid and the fermentation of saliva. Thus, part of the liver of a dog weighing 670 grammes contained 3.02 per cent. of sugar, and 7.65 per cent. of glycogen. After three days 90 grammes of what remained gave a quantity of sugar proportionate to 11.32 per cent. for the entire liver. The quantities of sugar and glycogen previously present should have formed 11.52 per cent. of sugar, so that the correspondence is almost absolute. After five days the proportion had slightly diminished.

5. In a long paper of more than thirty pages, in which the glycogenic theory is stated not exactly in accordance with the most recent views, Dr. Ford gives the results of a series of experiments upon the effect of temperature on the disappearance of sugar from the blood and liver; and tries to prove that the normal mode of its disappearance in the organism is by alcoholic fermentation. The early history of the glycogenic theory is very well given in detail; but in his summing up no account is taken of Bernard's and Pavy's recent work on the subject.

Dr. Ford's experiments seem to warrant him in coming to the following conclusions:—

1. Sugar disappears very slowly (several days) in samples of mixed blood between 50° and 60°, and usually does so after putrefaction commences; though, if its quantity be small, it may entirely disappear before this.

2. But at the temperature of the body during life only four to five hours are required.

3. During life it probably disappears with much greater rapidity.

4. In liver tissue sugar does not disappear at ordinary temperatures until several days have elapsed, and incipient putrefaction begun. At the same time

alcohol, and a volatile and a fixed acid, are abundantly formed.

5. The store of glycogen originally present in the liver seems to be transformed more or less completely into glucose at ordinary temperatures.

6. At the normal body temperature, however, the quantity of sugar steadily increases during a certain period, in consequence of a progressive conversion of the glycogen into glucose, which, as soon as it is formed, enters upon the vinous fermentation.

7. The efficiency of a normal temperature in causing a rapid disappearance of sugar in fresh blood indicates that this disappearance is due to fermentation; and it may, presumptively, be affirmed that during life sugar is likewise destroyed by a fermentation process.

8. It may also be concluded from the above that sugar is not destroyed by any process of direct or indirect oxidation in the blood after death, nor presumably, therefore, during life. When the oxidising power of the blood is annulled by the action of sulphuretted hydrogen upon the corpuscles, the sugar disappears as usual, provided the proper temperature be maintained.

9. Immediately after death, at the normal body temperature, sugar accumulates in the liver tissue by a progressive saccharification of glycogen, the sugar not being removed, as it should be, by the uninterrupted flow of the blood. After a time the glucose generated enters upon the vinous fermentation, and is converted into alcohol and carbonic acid, etc. And, as in liquids containing both nitrogenous and saccharine matters, the vinous fermentation is followed by the acetic, and this by the septic or putrefactive fermentation. "It would seem unreasonable to suppose that sugar disappears in the economy by a mode of conversion foreign to that which obtains in the fresh tissue of the liver under conditions simulating those of normal action in no small degree. Since, in the latter case, we find that sugars enter into the alcoholic fermentation, as we may say, spontaneously, its conduct seems to indicate its conversion within the body by the same process, with the same products, alcohol and carbonic acid."

T. CRANSTOUN CHARLES, M.D.

KÜHNE ON BACTERIA FERMENTS.—W. Kühne (*Untersuchung. aus der Physiol. Institut. zu Heidelberg Centralblatt für die Med. Wissensch.*, May 18, 1878) states that the ferment to which bacteria owe their action is not the same as trypsin, the proteolytic ferment of the pancreas. Trypsin, acting upon albumin, never produces indol; this substance is only formed therefore by the living action of bacteria, which goes on in the digestive mixture. The formation of indol may be arrested or prevented by the use of antiseptics, such as thymol or salicylic acid, which do not hinder the action of the pancreatic juice. If bacteria be entirely excluded, an operation which has been successfully performed by Prof. Kühne, the digestive action of the pancreas may be allowed to proceed for many months without any formation of indol, although leucin and tyrosin are obtained in abundance. The dried ferment may be heated to 100° Cent. without impairing its powers. The author marks the following differences between the action of trypsin and that of bacteria. Trypsin always leaves a residue of antipeptone untouched. If the residue be treated with fresh trypsin, neither leucin nor tyrosin can be obtained from it; but if it

is infected with bacteria, fresh tyrosin is formed, whilst indol makes its appearance. Glutin and glycol are not obtained by the action of trypsin, but by means of bacteria. Finally, bacteria have no influence upon albumen in presence of thymol, whilst the action of trypsin is unchanged in presence of that substance. No tyrosin, and but little leucin, is found in the absolutely fresh pancreas. They are not, therefore, previously formed in the gland, but are due to auto-digestion. The author believes that bacteria can penetrate animal membranes, which therefore offer no absolute protection.

SALOMON ON THE ORIGIN AND DIFFUSION OF LACTIC ACID AND HYPOXANTHIN IN THE ORGANISM.—Herr G. Salomon (*Zeitschrift für Phys. Chemie*, Band ii, s. 65) communicates the results of his experiments, made for the purpose of ascertaining whether hypoxanthin and lactic acid are normally present in the blood. He found that hypoxanthin is always met with in the blood of the dead body, whilst there is none in blood drawn by vivisection, nor in that of people suffering from leucæmia. Experiments made on the lower animals confirmed these results, and Salomon explains them by saying that the hypoxanthin is stored up in the dead body, whilst in the living organism it is continually disorganised. The experiments with lactic acid were not so satisfactory, but it also was undoubtedly found more frequently in the dead body.

With regard to the origin and diffusion of hypoxanthin, Salomon found that it occurs normally in the marrow of bones, and that it may be artificially prepared from fibrin by pancreatic digestion.

D'ARCY POWER.

NIKITIN ON THE PHYSIOLOGICAL ACTION OF SCLEROTIC ACID.—It was announced some time ago by Dragendorff and Podwiskowsky that they had succeeded in obtaining from ergot two new principles, *scleromucin* and *sclerotic acid*, and that to these principles the physiological activity of ergot was really due. A good sample of ergot ought to contain from 4 to 4.5 per cent. of sclerotic acid, and from 2 to 3 per cent. of scleromucin. The former substance is an amorphous crystalloid, soluble in water and very dilute spirit, insoluble in absolute alcohol and ether. A few experiments made on frogs appeared to show that sclerotic acid had a powerful effect upon the nervous system. Nikitin has just carried out a more complete investigation of its properties in Professor Rossbach's laboratory at Würzburg. (Rossbach's *Pharmakologische Untersuchungen*, iii, 1 and 2.) The following are the principal conclusions at which he has arrived. 1. Sclerotic acid exhibits all the physiological and therapeutic actions of ergot, and ought, therefore, to be regarded as its principal constituent. Sodium sclerotate is identical with sclerotic acid in its properties, but is somewhat less powerful. 2. Cold-blooded animals are very susceptible to the influence of sclerotic acid. Among warm-blooded animals, carnivora are more readily affected by it than herbivora. 3. The chief action of sclerotic acid is upon the nerve-centres. In frogs, the reflex excitability of the spinal cord is first depressed, then annulled; in warm-blooded animals it is greatly reduced, but never wholly destroyed. 4. The peripheral terminations of the sensory nerves are only paralysed by sclerotic acid when this is brought into direct contact with them. Neither motor nerves nor striped muscles are affected by it. 5. The heart's

action is depressed by sclerotic acid in frogs, but not in mammals, even when the dose is relatively large. 6. Poisonous doses lower the blood-pressure and temperature. 7. The respiratory movements are always slowed; after a lethal dose, they cease before the heart stops beating. 8. The peristaltic movements of the intestine are always accelerated in warm-blooded animals. 9. The uterus, whether gravid or not, is always excited to contraction. Existing contractions are intensified. 10. The hæmostatic action of sclerotic acid in pulmonary hæmorrhage may be accounted for by its lowering the blood-pressure. Its controlling influence on hæmorrhage from the bowel or uterus is due to a different cause, viz., to the anæmia resulting from vascular spasm in those organs. 11. The immediate cause of death in mammals after a fatal dose of sclerotic acid is arrest of the respiratory movements.

The advantages to be anticipated from the substitution of sclerotic acid for ergot in actual practice are: the smaller dose required; the tastelessness of the powder; its permanence when kept in a dry place. Neither the acid nor its sodium salt are suited for hypodermic administration; for, though they do not appear to set up local inflammation, they give rise to acute pain. The appropriate dose for the human subject may be determined without much risk of accident; for they are from ten to a hundred times less poisonous than the majority of medicinal alkaloids. E. BUCHANAN BAXTER.

REVIEWS.

The Diagnosis of Progressive Locomotor Ataxia.

By E. C. SEGUIN. From Series of American Lectures, edited by E. C. SEGUIN, M.D. New York, 1878.

In the form of a lecture, Dr. Seguin gives a brief, and, at the same time, a comprehensive account of the diagnosis of locomotor ataxia, more especially in its earliest stages. This disease appears to be more common in America than it is in this country, and hence physicians there have abundant opportunities of observing all phases of the disorder at every stage. Sclerosis of the posterior columns of the cord is a disease usually so insidious and chronic, so many years often elapsing before locomotor symptoms present themselves, that it is not surprising that in the first period of the affection errors of diagnosis are frequently made, and symptoms marking the progress of a grave, and probably incurable affliction, are often taken for neuralgic, rheumatic, or other less serious conditions. In such cases, it is obviously of the highest importance to indicate, if possible, in a clear and definite manner, the existence of this terrible malady at the earliest possible date, seeing that the welfare of the patient and those dependent on him, the choice of his profession, and a thousand other momentous questions may depend on the decision.

Dr. Seguin, at the commencement, points out that the causes of mistaken diagnosis are two-fold. 1. That the value of the so-called fulgurating pains is not sufficiently appreciated; and, 2. That the importance, as symptoms, of the staggering gait or falling when the patient's eyes are closed, is usually exaggerated. This latter he does not consider as characteristic of sclerosis of the posterior columns of the cord, but may occur in various other diseases.

On the lightning pains the author lays great stress. They are peculiar, and, however varied in character, are always sudden, localised, repeated, and vagrant. They are sharp, darting, electric-like sensations, and hence called fulgurating; they are, at the moment, usually confined to a small portion of skin or tissue; they recur at frequent intervals, with periods of rest between; and they are not situated in any special part, but wander about during different attacks to various parts of the limbs. During the existence of these pains, there is usually hyperanæsthesia of the portion of skin at the time affected.

Another important symptom is anæsthesia. This may occur locally, immediately after an attack of the fulgurating pains, or it may slowly develop independently of them.

Ataxia of movement is a valuable sign of the disease, but by no means an essential one, as the patient may have incurable posterior sclerosis without a trace of incoordination, and, conversely, ataxia may be exhibited when this lesion does not exist.

The author divides locomotor ataxia into three stages.

I. *The Stage of Fulgurating Pains.* The symptoms which characterise this, in order of frequency and importance, are as follows: 1. Fulgurating pains; 2. Localised hyperæsthesia; 3. Diplopia from strabismus; 4. Ptosis from palsy of third nerve; 5. Small pupils; 6. Unequal pupils; 7. Numbness and slight anæsthesia of feet; 8. Sexual excitement; 9. Seminal emissions; 10. Paresis of the bladder; 11. Diminished tendon-reflex (tested at the knee); 12. Impaired sight from atrophy of optic nerves; 13. Slight arthropathia; 14. Localised anæsthesia; 15. Absence of paralysis or ataxia in the limbs; 16. General health excellent. Of this list, the fulgurating pains and ocular paralysis only are essential to the diagnosis. For months, and even years, the pains alone have existed; and the author cites a case where these were present for twenty-seven years without symptoms, Co-ordination being developed, the diagnosis is established by the additional presence of ocular symptoms with hyperæsthesia, anæsthesia, loss of tendon-reflex, etc. The usual duration of the first stage is from one to four years.

II. *The Ataxic Stage.*—The chief symptoms in order of importance are: 1. Ataxic movements; 2. Fulgurating pains; 3. Localised hyperæsthesia; 4. Ocular paralysis; 5. Numbness and other dysæsthesiæ; 6. Anæsthesia; 7. Staggering, with closed eyes; 8. Failure of sexual power; 9. Absence of tendon-reflex; 10. Rectal and vesical paresis; 11. Gastric crises; 12. Laryngeal crises; 13. Vesical crises; 14. Severe arthropathia; 15. Amaurosis; 16. Complicating common transverse myelitis; 17. Spinal congestion; 18. Paralytic dementia; 19. Vesical catarrh; 20. Preservation of muscular force. The main feature in this second stage is the ataxia; but this alone, without other accompaniments, would not indicate progressive locomotor ataxia.

III. *The Pseudo-Paralytic Stage* may be said to begin when the anæsthesia and ataxia are so great as to render the patient perfectly unable to stand or to "use his legs". At this period, we may have any of the following symptoms in various groupings, or even all of them: 1. Fulgurating pains; 2. Ataxic movements; 3. Absolute anæsthesia; 4. Loss of sexual power; 5. Rectal and vesical paresis; 6. Paralysis of ocular muscles; 7. Amaurosis; 8. Deafness; 9. Various "crises". 10. Severe arthropathia.

thics ; 11. Disorganisation of large joints without pain ; 12. Seeming paralysis of the extremities from anæsthesia ; 13. Dementia. Dr. Seguin concludes his lecture thus : " I would remark that the recorded cases of cure of locomotor ataxia will not stand the test of the methods of diagnosis detailed above ; and their publication has not led me to abandon the opinion held by all authorities, I believe, that sclerosis of the posterior columns is an incurable disease at the present time."

A. HUGHES BENNETT, M.D.

The Apollinaris Spring in the Ahr Valley. By Professor Dr. L. DITTERICH, of Munich. (*Der Apollinaris Brunnen im Ahr-Thale. Topographisch naturgeschichtlich und ärztlich skizziert.* Von Professor Dr. L. DITTERICH, in München.)

Essay on the Natural Mineral Water of Apollinaris: its Use as a Table Water in the Prevention of Epidemic Diseases. Paris: A. Delahaye. 1879. (*Étude sur l'eau minérale naturelle Apollinaris: son emploi comme eau de table, dans la Prophylaxie des maladies épidémiques.*)

Reports, with Analyses, on the Apollinaris Spring, Neuen-Ahr, Rhenish Prussia. By Professor A. W. HOFMANN, of Berlin ; Professor A. KEKULÉ, of Bonn ; Dr. CARL BISCHOF, of Wiesbaden ; Dr. FRIEDRICH MOHR, of Bonn ; and others. 1878.

There is probably no spring, especially of the class of table waters, which has excited so much attention and discussion, and has attained in a comparatively short space of time such general approval on the part of the medical profession, and such a widespread and favourable reputation amongst the public as the Apollinaris Spring. We have a perfect recollection of the time when, scarcely more than twenty-five years ago, we first tested the then new Apollinaris Water, in company with some medical friends, and discussed its value as a dietetic or table water in comparison with the waters of Selters, Fachingen, Geilnau, Schwalheim, and other sources ; and we are glad to think that our view then formed, that it would prove a most valuable table water, and gradually make its way into public favour, was correct ; but we had then no idea that the Apollinaris Water would almost eclipse the reputation of every other natural mineral table water, and become the general substitute in all parts of the world of common, often impure, drinking water, and thus a source of incalculable benefit, and a pioneer of an useful sanitary and dietetic reform.

The essays and reports before us all thoroughly enter into the composition of the water, into the important steps of raising it from the subterranean bed of the spring, and of bottling it.

While most other natural mineral waters coming from abroad frequently exhibit settlements of various kinds, sometimes general turbidness, sometimes a smell of sulphuretted hydrogen, and not rarely flatness, very different from their qualities at their sources, the Apollinaris Water is always transparent, sparkling, with a pure and refreshing taste. This circumstance, and the fact that the consumption in this and other countries is very great, induced some people to suspect, and to spread reports, that much of the water supplied by the Apollinaris Company was artificial, not natural mineral water. Dr. C. Bischof, who assisted his late father, the well-known Professor of Geology of Bonn, in the original works of boring, and in the first chemical analysis, shows that the processes originally advised by his father

and carried out till now, with some alterations, were not so-called "improvements" of the natural water, but "means to bottle the water as nearly as this is possible in the state in which it exists in the earth", and that the spring is so abundant as to be sufficient to supply not only the present enormous consumption, but even a considerable future increase. Dr. A. W. Hofmann, the celebrated Berlin Professor of Chemistry, so well known in England from his long residence in London, Drs. Mohr, Kekulé, Odling, and Frankland, are all in harmony with Bischof, in regarding, after personal examination at the source, the steps taken in the management of the water as the best means for supplying the water in the most natural and agreeable condition. Thus, as to the amount of carbonic acid, Dr. Hofmann states that "the Apollinaris Water of commerce contains exactly the amount of carbonic acid originally dissolved in the spring, which is contained in the water when the suction pipe draws it off fifty feet below the surface".

Dr. Lutaud describes, in his carefully-written essay, the happy chemical composition of the Apollinaris Water as a table water, which composition, combined with its agreeable taste, entitles it, in his opinion, to be called "Reine des eaux de table." He specially dwells on the desirability of the use of natural mineral waters as table waters instead of common waters, on account of the danger of typhoid fever and other infectious diseases frequently resulting from drinking impure water. He also dwells on the advantages of natural mineral waters over artificial waters, because the latter often contain impurities caused by the process of manufacture. He then enters fully into the therapeutical applicability of Apollinaris Water, and specially recommends it as an adjuvant in the following morbid conditions : dyspepsia characterised by acidity of the stomach, gastro-enteralgia, tendency to gall-stones, gouty conditions, catarrhal affections of the genito-urinary mucous membrane, and uterine congestion leading to catamenial hæmorrhage.

Professor Ditterich likewise considers the chemical composition of the Apollinaris Water as particularly well adapted for dietetic use ; he describes it as promoting the change of tissues, and the execution of the products of this change, and at the same time increasing the appetite, and thus improving the nutrition of the body. His view as to its therapeutic uses almost entirely agrees with that of Dr. Lutaud, just mentioned.

Our own experience is entirely in accordance with the opinions of these eminent authorities, regarding the value of the Apollinaris Water as a most agreeable and generally useful table water. It has a refreshing taste, it promotes digestion, and owing to the happy proportion of its ingredients, it agrees with almost every constitution, and can be taken in sufficient quantity for all purposes of health, so as to allow us to dispense with common drinking water. We regard it as an especial boon to be able to obtain such a water in places where we cannot be sure of the purity of the drinking water, which is unfortunately the case all over the Continent, especially in large towns. We ourselves, when travelling, never take the common water, excepting in the mountains, but, if possible, order Apollinaris ; and we have been for many years in the habit of recommending our patients to do the same. We have reason to think that in several instances this rule has saved them from typhoid fever, while one or more of their companions, drinking the common water, were infected.

HERMANN WEBER.

The Twenty-First Annual Report of the Swedish Medico-Gymnastic Institution at Bremen. By Professor Dr. A. S. ULRICH. Bremen, 1878.

This is a short report of the diseases and deformities treated (from 1st July 1876, to 1st July 1877) by the Movement Cure. On the whole, 170 patients—77 males and 93 females—were treated. The ages varied as follows: Under 10 years, 33; from 10 to 20 years, 75; 20 to 30 years, 21; 30 to 40 years, 12; 40 to 50 years, 10; 50 to 60 years, 12; 60 to 70 years, 4; 70 to 80 years, 3.

Besides the chronic diseases mentioned below, a certain number of acute complaints, such as rheumatism, traumatic distortions and subluxations, acute dislocations of the ankle-, wrist-, and knee-joints, as well as swellings and inflammations, were perfectly cured in a short time by *massage*. As the majority of these acute and recent cases have been cured from within two to six days, no further details are given in the table.

Of muscular spinal deformities 89 cases occurred (in 28 males and 61 females) in the following form: Simple left lateral scoliosis, 17; right ditto, 3; double left lateral scoliosis, 9; right ditto, 28; kyphosis,* 28; lordosis, 41.

A table, with the name of the disease, the age of the patient, as well as the time and result of treatment, is given.

The following table gives a synopsis of all the cases under treatment.—

DISEASES.	Number.	Cured.	Considerably Improved.	Improved.	No Improvement.	Attendance Irregular, etc.	Still under Treatment.
1. Anomalies of Innervation, Chorea, etc.	1	1	..	..	..	..	..
2. Neuralgia, Spasmodic Pains of the Nerves.....	5	5	..	..	..	..	..
3. Nervous Complaints	7	3	2	..	..	1	1
4. Diseases of the Circulation: Plethora Abdominalis, Congestion to the Head, Deficient Capillarity; Cold Legs, Feet, and Hands; Amenorrhœa, Dysmenorrhœa, and other Anomalies of Menstruation.....	9	4	5	..	..	..	..
5. Constitutional Complaints: Phthisis, Scrofula, Chlorosis..	20	6	6	7	..	..	1
6. Local Chest-Complaints: Weakness of Respiration, Debility..	6	4	2	..	..	..	..
7. Abdominal Complaints: Constipation, Cardialgia, Flatulence, Dyspepsia	20	11	4	2	..	2	1
8. Spinal Deformities: Scoliosis (High Shoulders, Obliquity of the Trunk), Kyphosis (Round Back), Lordosis (Hollow Back)	69	20	20	19	1	2	7
9. Rheumatic Complaints	4	3	1	..	..	..	..
10. Paralysis and Paresis	10	3	4	1	1	1	..
11. Diseases of Bones, Deformity of Joints, Ankylosis after Caries, Rigidity of the Joints	10	2	4	3	..	..	1
12. General Debility, Muscular Weakness	9	5	2	1	..	1	..

Besides the diseases named in the above, many patients suffered from some accessory complaints and symptoms of disease. The following have been completely cured merely by movements:—Chronic diarrhœa, 2; nervous palpitation of heart, 2; sleeplessness, 2; pollutio nocturna, 3; various chronic headaches, 4; giddiness and heaviness, 4; cardial-

gia, 5; irregular menstruation, 6; flatulence, 6; rheumatic nervous pains in spine, 7; congestion of the head, and cold hands, legs, and feet, 13; constipation, 23.

It would be desirable that teachers of medicine and surgery should call the attention of their pupils to the curative effects of the rational application of movements (based on anatomical, physiological, and pathological principles) which can be produced in many chronic diseases. If every practitioner were to have at least some elementary knowledge of this branch of therapeutics, the number of victims of bone-setters, rubbers, and orthopædic instrument-makers, would be considerably lessened, and many a serious deformity prevented.

M. ROTH, M.D.

The Secretion of Sweat. (Die Secretion des Schweisses, eine bilateral Symmetrische Nervenfuction.) By A. ADAMKIEWICZ. Berlin, 8vo. 1878.

The author believes that the sudoriparous glands belong to the same category as the salivary and lachrymal, in that they are directly influenced by the nervous system, and that their secretion is not merely the result of an increase of blood pressure. His conclusions are founded on a series of experiments on men and animals in the Charity Hospital, Berlin. He finds that the stimulation of motor nerves or of the muscles supplied by them, provokes a secretion of sweat, which shows itself in the area presided over by the nerve or in that of the contracting muscle: in some regions, however, as the palms of the hands, the soles of the feet, and the face, the action is more marked. A similar secretion also occurs on the opposite side of the body in the area symmetrically situated. This phenomenon has enabled the author to determine the influence of the circulation on the perspiration, and he finds, even when the current of blood is interrupted in one extremity or the other, that unilateral excitation of the motor nerves is followed by a bilateral secretion of the sweat.

Excitation of the skin by means of electric currents causes reflexly a secretion of sweat which is always bilateral, symmetrical, and independent of the seat of stimulation. The stimulus of heat also excites sweating, but cold is ineffective, although it determines energetic contractions in the muscles.

The innervation of the centripetal and centrifugal nerves being materially identical with that of the central nervous paths, he argues that the excitation of these latter should produce the same effects; and as stimulants he makes use of the imagination, and demonstrates that we can excite experimentally a secretion of sweat in the case of women when they are frightened.

Adamkiewicz concludes from his experiments upon the higher centres, that the centres for the secretion of sweat ought to be found where the seat of the imagination is placed, that is to say, at the surface of the brain. The fact that the functions of secretion coincide with the motor functions permits us to infer the anatomical coincidence of the terminations of the motor nerves, and the nerves of secretion. Here are a few of the experiments: If the brachial plexus of a cat is cut, and its central end excised, the sole of the opposite foot will sweat; the same effect follows when the spinal cord is destroyed up to the origin of the plexus. An analogous experiment succeeds for the hind feet when the lumbar spinal cord is separated from the dorsal portion;

* Neither spondylitis nor spondylarthrocace (inflammation of the vertebrae, caries of the bones) is included, as these diseases cannot be treated by movements.

but it does not succeed if we destroy the inferior part of the dorsal and the upper part of the lumbar spinal cord. When the stimulus acts directly on the lumbar cord, the hind feet sweat even when the posterior roots of the nerves are cut. When the central end of the brachial plexus is stimulated, the fore foot of the opposite side and the hind foot of the same side sweat. We can make the four feet sweat when the stimulus affects the medulla; and we succeed in exciting the sudoriparous glands of the hind feet when the cord is tetanised, even when all the viscera, including the great sympathetic, are removed from the abdomen of the animal.

The author concludes that the nervous apparatus which presides over the secretion of the sweat has its probable origin at the surface of the brain. The nerves pass by the crura and medulla to reach the spinal cord; there they join the secreting ganglia dispersed along the whole length of the cord. These ganglia are probably placed on the anterior horns of the grey substance where are found the motor ganglia commanding the analogous parts of the periphery. The secreting fibres leave the cord, and traverse the anterior roots along with the motor fibres, and are distributed to the same regions as these fibres. Beside the secreting fibres contained in the motor roots, there are others which proceed from the great sympathetic, and pass to the sciatic plexus of the cat. T. CRANSTOUN CHARLES.

NEW INVENTIONS.

JOHNSTON'S FLUID BEEF.

This is a very nutritious form of advertised nourishment. It is a nutritious beef-tea, as distinguished from the ordinary beef extracts, first introduced by Liebig, which are, as he himself pointed out, essentially stimulant rather than nutritive in the strictest physiological sense. In this preparation the fibrin and albumen, which are the flesh-forming constituents of meat, are found in solution, having been finely powdered and restored to the beef juice previously extracted. Such a preparation deserves the approval with which it has met, and is likely to have numerous and extended uses.

INGLUVIN.

Under this name Warner and Co. have introduced a peptic agent prepared from the gizzard of the domestic fowl, and its digestive powers are alleged by American physicians to be very great. It comes to this country with considerable clinical endorsement as a specific for vomiting in pregnancy, as well as a powerful agent in the relief of dyspepsia and gastric disturbance. It will no doubt receive a fair trial from English practitioners.

OZOKERINE.

Ozokerine is a preparation which deserves a trial. It is a refined and highly purified form of earth-wax, and has the advantage of being agreeable in consistence, antiseptic in character, highly solvent, free from rancidity, and valuable as a basis for every kind of ointment or oily dressing. It is very superior to the ordinary animal fats for a variety of purposes, and few persons who have tried ozokerine would be

willing to use any of the old formulæ for medicinal ointments. It may be medicated with any of the substances commonly used, with which it forms a very elegant preparation; and in its original form it is an admirable dressing for most kinds of simple wounds. The agents for it are Corbyn, Stacey and Co., London.

TROMMER'S EXTRACT OF MALT.

Trommer's malt extract is a preparation which has been received with considerable favour, both in Germany, where it originated, and in America; and it is now being introduced into this country. The malt extract of this kind consists of an unfermented preparation of malt, based upon the formulæ of the German *Pharmacopœia*, and containing carbo-hydrates, malt, sugar, and dextrine, which take the place in therapeutics which has hitherto been essentially filled by cod-liver oil, while from the fact that these carbo-hydrates are combined with diastase, with phosphates, and with the bitter principle of hop, it has many advantages over cod-liver oil in respect to its power of aiding digestion. Thus this preparation is not only in itself nutritive, but also tonic, and has the power of increasing the gastric secretion, and of rendering starch digestible through the medium of its diastase, which converts it into glucose. A great number of eminent practitioners abroad, including indeed most of the leading teachers, speak of it in the highest terms, and independently of the obvious merit of its composition there is in its favour a mass of clinical evidence which should certainly secure for it an extensive trial in this country.

SYMES' LAC BISMUTHI (MILK OF BISMUTH), AND LAC BISMUTHI ET CERII.

We have received from Messrs. Symes and Co., manufacturing pharmaceutical chymists, Hardman Street and Bold Street, Liverpool, specimen bottles of these two preparations, for which they claim that it supersedes all other forms in which bismuth has been presented, this effect being due to the fact that these salts are presented in form of hydrates. It can be given either separately in doses of one to two teaspoonsful, or in combination, with alkalies, hydrocyanic acid, etc. An elegant formulæ is lac bismuthi, ʒj; sodæ sesquicarb., gr. xv.; acid hydrocy. dil. P. B. m. viij sp. chloroformi, m. xv, aquæ distillatæ ad. ʒj. ft. hr. terin die sumend. It may also be used advantageously as an injection, or as a lotion to abraded surfaces, as the salts are not in solution, but a milky liquid is readily formed when the bottle is shaken.

We have submitted both of these preparations to careful trial in certain suitable cases, with marked benefit; we can therefore strongly recommend them for patients suffering from gastrodynia, chronic vomiting, and in the sickness arising from pregnancy. Physicians and general practitioners would do well to prescribe them.

WYETH'S PHARMACEUTICAL SPECIALITIES.

We have received from Messrs. Wyeth and Co., through their London agents, Messrs. R. M. Burroughs and Co., 8, Snow Hill, Holborn Viaduct, London, specimens of some preparations of remarkable merit. Among them may be mentioned

Wyeth and Co.'s dialysed iron, which has proved itself, under chemical and clinical tests, as a pharmaceutical preparation of very high merit. It contains hydrate of iron in a form which is entirely free from the unpleasant astringent character of most iron preparations, and very easily assimilable. A novelty of very great interest in medical practice is their small compressed tablets of chlorate of potash, bicarbonate of potash, and chloride of ammonium. These small compressed tablets are infinitely superior to the ordinary lozenges, being at once more compact, purer and more soluble. For substances such as chlorate of potash, and bicarbonate of potash, this mode of preparation by firm compression is extremely useful, and their whole series of compressed powders, which include also iodide of potash, nitrate of potash, and other compounds, will be found extremely well worth the attention of the prescriber. They are sure to have a very extended popularity, as they are undoubtedly superior to preparations of a dry form, such as lozenges and troches, which have hitherto been in use.

WARNER AND CO.'S SUGAR-COATED PILLS.

The sugar-coated pills of Messrs. Warner and Co., Philadelphia, for which they received a prize medal at all the great International Exhibitions, have achieved a very high reputation, and are now being introduced in this country by Messrs. F. Newbery and Sons, 37, Newgate Street, London. Their sugar-coated phosphorus pills, have an especially high endorsement from the Jurors of the Philadelphia International Exhibition, who attest their solubility, their reliable character, the perfection of their sugar-coating, and their thorough composition and accurate subdivision. A special certificate is given as to the pills of phosphorus, that the element is thoroughly diffused and subdivided, although perfectly protected from oxydation. These phosphorus pills are presented in numerous combinations of a useful character, including a variety of the leading tonics, stimulents, and sedatives, and a list of such combinations is available for prescribers.

COCKING'S PORO-PLASTIC JACKET.

This jacket realises, we think, the one improvement which was necessary to relieve the practitioner from any difficulty of manipulation in applying Dr. Sayre's most excellent method of treatment of spinal curvature. By this method, the jacket being applied to the patient, becomes thoroughly hardened in a few minutes, so that it retains the form of the improved curve due to suspension or extension of the patient. It is then cut and laced, and remains available for continuous subsequent treatment. It is light, cool, porous, and has this great advantage: that by leaving portions of the jacket which overlies irregular projections unstiffened, all excess of pressure and the subsequent inconvenient consequences which sometimes occur, of local gangrene, or abrasion of the skin, are completely avoided. Mr. Ernst, Charlotte Street, Fitzroy Square, is making these jackets largely for use in private practice of practitioners and in hospitals: and we believe that they are likely to be found of very considerable service by a great number of practitioners.

MISCELLANY.

AT a recent agricultural meeting in Darmstadt the highly interesting fact was stated that since the adulteration of milk has been prosecuted with so much severity by the police, the mortality of infants had decreased about 50 per cent.

THE dangerous character of lead-compounds is shown by the fact that in the years from 1838 to 1847 no fewer than 3,142 patients suffering from lead-colic were admitted into the hospitals of Paris, although there were at that time only two white- and red-lead works in the city. Of these cases 112 proved fatal.

ACCORDING to *La Lancette Belge* sulphate of copper has caused the death of 77 persons in Belgium during the last ten years. The phosphorus obtained from matches has proved fatal to 170, verdigris to 33, sulphuric acid to 30, and cantharides to 24.

TREATMENT OF BALDNESS.—The following is highly commended by Dr. George H. Rowe in the *Atlantic Medical and Surgical Journal*, for seborrhœa and consequent alopecia. It is the plan of Professor Kaposi: B. Saponis viridis (German), alcoholis, aa. f. ʒ ij.; solve, filtra, et adde ol. lavandulæ, gtt. xx.—xxx. Pour one or two tablespoonfuls upon the scalp, then pour on a little water, rub smartly with the fingers, thus producing a copious lather. After four or five minutes' shampooing this way, rinse the head thoroughly with pure water, then dry thoroughly with a towel, then apply a little cosmoline. This process causes the hair to fall out in greater abundance at first, but a new and fine growth of hair soon follows.

A RUSSIAN lady, Madame Berlady, has lately defended in Paris her graduation thesis on the "Structure of the Arteries." Her way of conducting the discussion called forth some highly complimentary remarks from Professor Charcot. He said publicly, speaking of Madame Berlady's work, "That women, in entering upon that field of knowledge which hitherto had been accessible only to men, apply to these arduous studies the same conscientiousness and care which they have been accustomed to bestow on their own special feminine occupations." The professor went on to say that their work and efforts have been of a character to place them on a level with the best students.—*Vratschebnya Vedomosti*.

FURNELL ON THE TEMPERATURE OF THE HUMAN BODY IN THE TROPICS.—During the last few months, since Dr. Johnston stated in the *Army Medical Reports* for 1876 that the temperature of the body in a state of health was 97.63° in the tropics, several papers have appeared in the medical journals bearing upon the question. Dr. Furnell, writing from Madras (*Lancet*, July 1878, p. 110), asserts that in both Europeans and natives in Madras the axillary temperature is 98.4°. Dr. Boileau (*Lancet*, August 1878, p. 275) has arrived at the conclusion, from independent observations, that the temperature of man in intertropical regions is not higher than it is in temperate.

WOMEN AS CHEMISTS.—Female pharmacists are said to be numerous in Holland. The fashion was set by a Miss Tobbe, who wished to make herself useful in her father's apothecary shop. There was considerable difficulty in obtaining the title, owing to the law, but this has now been altered, and the number of students is at present large. They are much sought for, and are recommended for their orderly habits, their cleanliness, and accuracy. The *Boston Medical and Surgical Journal* understands that ladies have become very proficient in the chemical laboratory of the Institute of Technology in that city, and expresses the editorial opinion—"This is a kind of work for which women are eminently more fitted than the practice of medicine."

THE NATURAL MINERAL WATERS

OF

ROYAT

(FRANCE).

THE Thermal Station of Royat was much frequented by the Romans. It is situated in a beautiful valley, near to the large town of Clermont-Ferrand, at the foot of the Dome Mountains, the picturesque and remarkable extinct volcanoes of Auvergne, and is the natural point of departure for various delightful excursions.

There is here a complete Thermal Establishment, a grand hotel, numerous villas, a bath and casino, and all possible amusements that could be offered to the bathers and visitors to this delightful Thermal Station, the most charming in Europe.

The WATERS of ROYAT are gaseous alkaline mixed with chloride of sodium, iron, and lithia, their principal characters being their dissolving, resolute, and reconstituting powers.

The Baths are near the running spring. The temperature of the source is 35° Centigrade, and the waters gush out at the rate of 1000 litres per minute. For treatment at home the Waters of Royat are specially recommended for weak persons, taken at meals, mixed with wine. They have proved curative in such diseases as arthritism, anæmia, chronic debility, and general nervous weakness, disorders of the stomach, bronchitis, laryngitis, diabetes, gravel, gout, rheumatism, and diseases of the skin.

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THE discovery of the presence of Arsenic in the Mineral Waters of Bourboule has proved their immense value. The most eminent medical authorities have made repeated trials of them in the various hospitals, and they have stated in numerous works the beneficial results obtained by their use.

This Thermal Station, originally a little hamlet, has now grown into a large town, the importance of which is continually increasing. This unequalled good fortune is not the result of fashion, but arises from the fact that the WATERS of BOURBOULE have proved a health-giving medicine, and have often produced great results. The Waters of Bourboule are unique of their kind, and are extremely valuable in lymphatic affections, in the various forms of scrofula and syphilis, intermittent fevers, diseases of the bones and skin.

For home treatment the Waters of Bourboule are bottled, retaining all their virtues, and are equally efficacious in the above-named maladies. The dose is half a wineglass to three wineglasses full each day, pure or mixed with wine. As a lotion it has proved efficacious in diseases of the skin, redness, and in other light affections.

Notice that the capsule bears the name "Source Perrière".

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Hospital Report, Charing Cross (Dr. Green's Ward).—"In four cases of Gastric Ulcer, Dr. Green has lately used Chapman's Koumiss, particularly selecting the medium quality, and using it when in such a condition from Chronic Gastric Ulcer, when all treatment had failed, and she appeared to be in a hopeless state from want of nutrition. Koumiss was given in small and frequent doses; it was well borne without pain or vomiting, and the patient made an excellent recovery. Koumiss has likewise been found useful in some of the diseases of children."

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APRIL 15, 1879.

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The London Medical Record.

NIEDEN ON PERINEPHRITIS AND ITS LITERATURE.

THIS author has written an inaugural dissertation (*Ueber Perinephritis hauptsächlich in Ätiologischer und Diagnostischer Beziehung*, Leipzig, 1878) founded upon six cases which have come more or less under his own observation or knowledge, and upon a laborious collation of various authors, Rosenstein, Ebstein, Rayer, Vogel, Trousseau, Lancereaux, Simon, Hallé, Lecygue, etc., from whose writings, and the various periodical records, a table of 166 cases has been compiled.

The article is a lengthy one, and we can only give the bare conclusions of the author, but it will, as a whole, well repay perusal. The disease consists of an inflammation of the fat capsule surrounding the kidney, and of the connective tissue which is behind the peritoneum, and extends towards the pelvis. For the most part this inflammation leads to the formation of large abscesses, more rarely to small circumscribed ones. The latter condition is more apt to occur when pyelitic or pyelonephritic abscesses make their way slowly outwards. The usual sequel of these cases, if incision be delayed, is that they make their way outwards into the lumbar region or other places, after having burrowed about in the deeper parts. In other less frequent cases the internal organs are perforated, particularly the intestine, or thorax, or abdominal cavity, before the abscess makes its way externally. It is but seldom that resolution without suppuration occurs. In eight cases gangrene was noticed, and caused death, in two cases. One hundred and two of the cases were males, forty-two females, twenty-two are undetermined. The middle period of life furnishes the largest contingent of cases, but the recorded instances in children have largely increased of late. Etiologically there are two chief groups, which must be distinguished as primary and secondary perinephritis, and these again may be much subdivided. All those cases are primary which follow some external cause or some general bodily state; those which are secondary owe their origin to the extension of disease from neighbouring organs. Under the former heading are placed perinephritis from wounds and contusions, large effusions of blood, great muscular effort, sudden chill, fever, and blood poisoning of various kinds. As a cause of secondary perinephritis, renal disease ranks first in importance. Thus pyelitis and pyelonephritis, particularly that form dependent upon calculi, may start severe disturbances in the tissues about the kidney, and, moreover, the inflammation need not of necessity start from the pelvis of the kidney, but may take its origin in any part of the kidney, ureter, or even from the bladder. This may be by secondary suppuration of the kidney, by direct perforation of the ureter or pelvis of the kidney, or even without any perforation, by direct extension. However produced, an extensive circumrenal abscess is the usual result; more seldom there is a circumscribed abscess, or adhesive inflammation only, which may later, by making its way externally, cause contraction of the sup-

purating area, and the formation of a fistula. By a similar extension of inflammation, chronic catarrh of the bladder, both primary and when resulting from urethral stricture, may lead to perinephritis. To these must be added suppurative nephritis not due to calculus and renal phthisis; new growths; rupturing of serous cysts on the surface of the kidney, and parasitic inflammations due to the presence of echinococci (five cases); strongylus gigax (two cases), etc. Perinephritis, consecutive to disease of neighbouring organs, though less frequent than the previous form, yet embraces a large number of cases. There are records of cases from peritonitis, "inflammation of the entrails", perforation of the colon in one or other of its divisions, from typhlitis and perityphlitis, from inflammation (phlegmon) of the duodenum, from gall stones, from hepatic abscess, rupture of the liver, and rupture of the gall-bladder, with discharge of gall-stones. From the thoracic viscera come cases where vomicae in the lungs have opened through the diaphragm, and of pleurisy, which has set up perinephritis (six cases). Another large group comes by means of the continuity of and conduction by the retroperitoneal connective tissue, the kidney being (as in many of the other cases) quite unconnected with the disease. Such are cases originating in spinal caries and psoas abscess (Rosenstein records a case in which the "*gans intacte Niere schwamm*"; in operation wounds or traumatic wounds of the pelvic viscera, male or female, and puerperal inflammations; the operation of lithotomy; for urethral stricture; extirpation of the rectum and castration receiving special mention. This exhausts all the known causes of perinephritis, but there yet remain many cases which come into none of the before-mentioned groups. There are many other cases where, with a history of a chill only, or general bodily illness, the question must be answered why this particular part has become inflamed. If to this no positive reply can be given, still the fact remains that many credible observers have met with cases in which the symptoms of perinephritis have rapidly developed after a severe chill. It is probable that in these cases there is a feebleness of resistance, perhaps in consequence of some bygone affection, on the part of the connective tissue, which may be called a local predisposition. To the anatomical disposition of the parts is due the fact that the inflammation is progressive in most cases, and almost constantly terminates in suppuration, while the depth and inaccessibility of the inflammation preclude all energetic treatment. A very important factor in the rapid spread of the abscess in all directions is the extension of the perinephritic cellular tissue to the diaphragm, the spine, the hip, the buttock, and all the pelvic organs, and there is still another connecting link between the bladder and perirenal tissues in the ureter and renal pelvis.

Trousseau refers to the possibility of pain giving rise to inflammation and abscess, but the three cases cited by him were cases of obvious and sufficient disease of the pelvic organs, etc., lithotomy, castration, and long-continued disturbance at the neck of the bladder. With such evident pathological conditions, pain only indicates the first symptom of a commencing inflammation. In many other cases, no doubt, a careful clinical and anatomical investigation would make clear the mode of extension of the inflammation, particularly from the pelvic viscera, and so narrow the number of cases which are yet doubtful as to their etiology.

The diagnosis of perinephritis rests chiefly upon

three symptoms, tumour, pain, and fever; these, with some other diagnostic points which may accompany them, form together a clinical picture which is easily recognisable.

The first symptom is usually fever, which attacks suddenly with rigors, followed by heat sweating and then apyrexia, so as to simulate intermittent fever. The usual symptoms of fever are present, and an obstinate constipation, due in part to compression of the colon. The nervous symptoms have been observed by Trousseau to rouse the suspicion of typhus. In the later part of its course the fever becomes more remittent in type, usually with a severe exacerbation at the onset of the suppuration, and in the process of pointing. Severe nervous symptoms, such as violent delirium or coma, are only present in very acute cases, especially those where gangrene supervenes. Should the fever continue after the pointing or opening of the abscess, either of which is usually associated with a sudden fall of temperature, the hectic type is assumed with the rapid establishment of a general cachexia.

There are other important symptoms. Pain which is usually situated under the false ribs, is dull in character, and changes its position from side to side. It is increased by movement or pressure, and passes for rheumatism or neuralgia. Local swelling is often long delayed, but sooner or later an indistinct resistance to deep palpation appears, which gradually assumes a more definite outline. There is dulness extending over a continually increasing area, so as to press upon the diaphragm, to appear in the thigh, or perhaps an abscess opens into the hip-joint. The tumour is immovable, rounded and fluctuating. Then the skin becomes infiltrated, hot, and red. Emphysema of the skin has been twice noticed by Trousseau, due to communication of the abscess with the colon. Spencer Wells and Simon have laid stress upon the importance of ascertaining the position of the colon in retroperitoneal tumours. On the left side it lies in front of, on the right inside the tumour. English and American authors have also made much of the position of the corresponding lower extremity. The thigh is flexed at the hip, as in psoriasis and coxitis, and should persons so affected attempt to walk, they lean with their arm extended upon the thigh. This position was noticed in twenty-five of the 166 cases. Anæsthesia of the whole extremity or of special regions, and neuralgia, have been noticed. The nature of the pus differs in the case of primary and secondary perinephritis. In the former it is thick and odourless, mixed with dead particles of connective tissue. In the latter it is serous or ichorous, mixed with urine, or offensive from decomposing urine or contact with the neighbouring colon, even though no actual perforation of the intestine has taken place. Calculi may occasionally come through the wound. Not seldom the kidney can be felt by the finger through the wound.

The urine offers nothing characteristic, as a rule, though in special cases there may be special symptoms, such as hæmaturia, pyuria, the passage of echinococci (case 110), worms (case 21), and of calcareous particles.

With regard to the abscess, it seldom opens into the peritoneum; less rare is perforation of the colon (ten cases). The stomach, duodenum, pleura, and lung have all been occasionally involved. The bladder, urethra, and vagina were perforated once each. Externally it may open below Poupart's ligament, in various situations, or about the buttock, or in the lumbar region, the most favourable situation

for the patient being the last-named. A permanent urinary fistula remains sometimes.

For differential diagnosis very little need be said. The occasional occurrence of serous cysts, hydatid cysts, and carcinoma of the kidney must be remembered. In the first two named, cedema of the skin is never present; in the latter the tumour is hard, irregular, and associated with hæmaturia and rapid cachexia.

The distinction between perinephritis and psoriasis is often difficult. To determine that point, attention must be directed to whether the pain is more severe in the renal or iliac region; whether the movements of the thigh are much limited, and whether in sitting down the body is made to rest on the tuber ischii of the unaffected side to relax the so-called "lumbar fold".

Dr. Nieden advocates early incision, and in the majority of cases the prognosis would appear to be favourable. JAMES F. GOODHART, M.D.

MORPHOLOGY OF THE OSSICULA AUDITORIS.

MR. A. H. G. DORAN, F.R.C.S., in a paper read before the Linnæan Society gives a descriptive and comparative account of the very extensive and unique collection of the bones of the ear of the mammalia prepared by him, and now in the museum of the Royal College of Surgeons of England. This collection, which is the largest in the world, and which has taken an enormous amount of labour to prepare, contains the bones of the ears of nearly all the families of mammalia, and affords great facilities for the study of their comparative anatomy. As the human ear-bones have had the most attention paid to them, and as they are considered by some as the standard of comparison, they are first considered, and their peculiarities are described, so that the homologies of the parts of each ossicle of the lower mammals may be more clearly understood. The drawings forming the plates accompanying the work are taken from nature, and are in all cases enlargements.

The Auditory Ossicles in Man. The Malleus.—In the human malleus the portion of the head above the articular surface is prominent, smooth, and convex, projects more on the outer than on the inner side, and is broadest laterally. Posteriorly it bears the articular surface for the head of the incus, which has very elevated borders, and is about three times as broad as it is deep vertically. This surface lies very obliquely compared with the mallei in most mammals, so that its external extremity is much higher than its internal. It is generally regarded as if it were one single facet, but on comparing it with the same surface on the malleus of a cat it will be seen that it should be considered as made up of two facets. A faint groove more marked in some human mallei than in others, and not reaching either extremity, divides them, running in the very oblique long axis of the whole surface. The more internal and upper facet or portion of the articular surface above the groove represents that facet which is almost completely superior in most of the lower mammals, the more external below this groove corresponding to the lower facet in many other mammals. Both rise into a high vertical convexity about the middle of the whole surface, which is there much more contracted; their planes slope downwards to—

wards the groove, so that a concavity is formed plainly visible when the articular surface is viewed sideways. It is found that the characters of this surface undergo conspicuous changes during the growth of some genera. Between the head and the manubrium is the short constricted neck. This is rather flattened laterally so that it is narrower vertically than horizontally. On its external aspect is a sharp sigmoid ridge, convex forwards at first where it is near the anterior border of the articular surface, then concave forwards where its anterior end loses itself on the root of the manubrium. Particular attention is called to this ridge, as it is always constant in those animals where the malleus has a distinct neck, and is very plain in the mallei of the fissiped carnivora and most ungulates, appearing as the sharply curved compact neck itself, the remainder being a thin lamella of bone joining the processus gracilis. This sigmoid portion will be observed to run away from the processus gracilis, but is lost on the base of the manubrium. This is easily accounted for if we remember that the neck is originally developed from the incurved dorsal end of the mandibular arch, the apex of which forms the manubrium itself. On the outer aspect of the neck, close to the root of the manubrium, is the root or place of origin of the processus gracilis. After examining many mallei from the human foetal and adult skulls, hardly ever has there been found a trace of the wide lamina of thin bone filling up the angle that process forms with the neck as in the fissiped carnivora. Believing, however, that the sigmoid posterior part of the neck in man represents the similar curved isthmus which constitutes the whole neck in these animals, it is correct to say that the short compact part of the neck of human anatomists in front of that sigmoid ridge is the same ossification as the upper part of the lamina, when such exists. The processus gracilis cannot be seen unless taken from a foetal or very young skull, not only on account of its fragility, but because it atrophies to a mere stump before adult life. It forms with the neck an angle of 125° , and runs almost horizontally forwards to the fissure. It is generally bowed regularly, and is concave forwards, sometimes wavy, but in all cases the degree of curvature is slight. When well preserved, the processus gracilis at birth is longer than the manubrium. Below, and internal to the processus gracilis, the insertion of the tensor tympani muscle is sometimes marked by a faint elevation close to or upon the manubrium, representing the processus muscularis of Hyrtl, which attains a great development in some animals. The manubrium is in man below the average length, much shorter than in ruminants or terrestrial carnivora, although longer than in some seals and whales. It is of a stout make, broader at the base than in the simiidae, it is much flattened laterally, the sides looking respectively antero-superiorly and postero-inferiorly; they are also slightly convex. The extremity is slightly recurved, more so in some specimens than in others, and spatulate and smooth towards the tympanic membrane. The edges of the manubrium are thick and blunt, and the outer edge, though of certain breadth and giving attachment to fibres along its entire length, is rarely separated from each side by sharply defined borders, so as to constitute a true and distinct outer surface, as seen in many lower animals, especially in the Canidae. This edge ends below the spatulate dilatation, above in a very distinct sharp projection, well curved outwards. This is the processus brevis; its good development is a prominent feature in the

human malleus. In most mammals it is only an angle at the outer aspect of the base of the manubrium, and in many it does not exist at all. The human malleus may be taken as a good central type of the bone in mammals. It holds an intermediate position between the almost quite neckless type seen in the Cibiidae in *Tupaia* and the true squirrels, and the broad laminated form of the terrestrial carnivora and the antiodactylate ungulate. It is the same, with some modification, in the higher monkeys, Ichneumons, and to a certain extent in the seals. It is also imitated in some of the Insectivora, Rodentia, etc.

The Incus.—In the embryo this bone holds a prominent position at the end of the hyoidean arch. It varies much more in the mammalia than is supposed. In man it is of even more central type than the malleus. The body is well developed in height, breadth, and is considerably compressed laterally. The articular surface looks upwards and forwards, and is shaped to fit that of the malleus; its more external limit is on the posterior segment of the body, which is higher and more external than the anterior, in accordance with the high position of the external extremity of the corresponding area on the malleus. Its boundary opposing the inner, which is the lower extremity of the corresponding area on the malleus, lies upon the lower and more internally placed anterior segment of the body. Into the groove between the two extremities fit the convexities of the two facets on the malleus. Around the inner margin of this articular surface is a distinct groove, like that which is often so strongly developed in seals, and there is a distinct concavity on the inner surface of the body, at the bottom of which is a minute nutrient foramen, often, however, filled up even in the incus of a newly-born child. The processus brevis of the incus in man is generally not much longer than the processus longus, and might more correctly be called the posterior crus. It lies as much superior to the rest of the ossicle as posterior, and in some animals it is almost superior. It is moderately divergent from the body, broad at the base, and blunt at the point, where on the inner aspect is a minute pit or concavity, generally admitted to be the true articular surface. The processus longus is slender and slightly convex inwards at first, then forms a gentle curve, suddenly turning inwards at the extremity, which bears a flat elliptical disc on a narrow pedicle. This is the os orbiculare, or better termed the Sylvian apophysis, which has been considered by Sappey and others as a separate bone, but now is generally considered as an epiphysis of the Incus.

The Stapes.—This bone assumes in man an extreme and highly-developed form, and is not of a central type, like the other bones. Its head is broad and shallow, the free aspect is elliptical, and a little concave to articulate with the os orbiculare. The crura are long and widely divergent, so as to leave a large aperture between them at their base. The anterior one is the more slender and the straighter; it is widely grooved towards the aperture in its upper half, but the channel narrows close to the base. The posterior crus has a curve or shoulder, often very marked, near the head; it is deeply channelled towards the intercrural aperture by a groove almost as deep near the base as near the head. This sulcus joins under the head that of the opposite crus. Sometimes the anterior crus is more curved than usual, but seldom so much as the posterior. In such cases it is still the more slender, and the groove is less marked near the base than on the

posterior crus. The base or footplate is uniform, its upper border being a wide arch, its lower slightly concave in the middle. Its posterior extremity is well rounded off, and its anterior is usually much sharper, but this distinction is often the least marked when the crura are most alike. The base is slightly convex towards the vestibule. On the tympanic aspect it is formed into a shallow tray by the prolongation along its margin of the high edges of the channel with the crura. This condition is frequently found in animals where the bone is well developed and lightly made. A bony ridge going along the tympanic aspect of the footplate is sometimes seen, but is not constant. The aperture between the crura of the human stapes is larger when measured vertically as well as horizontally than in the lower animals, including even the elephant, but in the golden mole the width of the aperture at the base is proportionally greater, though the head is much nearer the footplate. The presence of a minute tubercle on the inner side of the head of the stapes does not seem to be constant in man. The occasional ossification of a part of the stapedius tendon in man is well known, and is constant in many animals.

The *Simiidae*.—The ossicula of *Troglodytis niger* are, taken as a whole, the most like those of *Homo*. The gorilla resembles man in its incus and stapes, but less in its malleus. *Suma* more resembles *homo* in the head and articular surface of the malleus. Though the incus of some species of *Hylobates* exhibits a tendency to low type in the malleus, and particularly in the stapes, this genus is quite anthropoid. In these ossicles, but most markedly in the stapes, these apes are much more allies to man than the lower monkeys.

The *Ossicles of the Symmorphæ, or tailed Old-world Monkeys*, all depart from the apes and man, and resemble the lower monkeys and most other mammals in the straight and little divergent crura of the stapes. A processus muscularis on the malleus is almost constant. In the distinctly necked malleus with a well-formed head, and in the incus, broad between the crura, *Semnopithecus* approaches the *Simiidae*, especially *Hylobates*, but the stapes is not at all anthropoid. In *Cercopithecus* the malleus is nearly as high in type, but the incus is either square-bodied or high and narrow as in lower monkeys. In *Colobus* the head of the malleus is almost as ill-developed, and sometimes more flattened than in *Macacus*, and the incus is of the same form. In *Macacus*, *Cynopithecus* and *Cynocephalus*, the malleus has a very short and constricted neck; the manubrium which bears a processus brevis and muscularis forms a very wide angle with the rest of the bone; the incus and stapes exhibit constantly the tendency to low types already seen occasionally in higher quadrumina.

The *Ossicles of the Platyrrhini and the Lemuridae* are peculiar. In the *Ateles* the malleus has a short neck and a rounded prominence corresponding to the processus brevis. The articular surface is shallow, as in all the *Cebidæ*. The incus has not a very high body; the crura of the stapes are longer than in monkeys. In the *Mycetes* and *Pithecia* the neck of the malleus is quite suppressed, and the manubrium at its root runs in the long axis of the head. The incus has a very high narrow body. The stapes in these and the genera of the *Cebidæ* yet to be mentioned has not so long crura as in the *Ateles*, but it is of the same form as in the old-world monkeys. In the *Cebas*, *Nyctipithecus* and *Saimaris*

the malleus much resembles that of the *Mycetes*, but the head is bent on the root of the manubrium. In *Cebes* the body of the incus is not higher than in the *Ateles*, but in the other genera it is almost as high as in the *Nyctes* or *Pithecia*. In the *Hapalidæ* it has a rather deeper articular surface than in the *Cebidæ*; it is quite neckless, and the head is bent upon the manubrium. The incus is generally high in the body. In the *Marmoset* the crura of the stapes are often fused for some distance below the head, as in mammals of a very low grade. Among the *Lemuridae*, the *Nycticebidæ*, *Galaginidæ*, and *Propithecus* much resemble the *Hapalidæ* and *Cebus* in the malleus, but the articular surface is deep, deeper than even in *Hapali*; the head is very short, and strongly bent on the manubrium. The incus has a very high body in the *Galagos*, but not in the *Nycticebidæ*; but in *Lemur* the malleus loses the specialised form common in the other *Lemuridae*, and new-world monkeys. There is a constricted neck, and a more or less developed processus brevis. The manubrium forms a distinct angle with the neck, instead of the head being bent on it as in the *Galagos*, etc. The incus is not high and narrow. There is always a bony canal between the crura and the stapes. In *Cheromys* the ossicula are large and their affinities indistinct. The malleus has a much more flattened head and a trace of processus brevis; in most respects it is of the *Rodent* type. The incus is of rather a peculiar-shape, and the stapes has curved crura.

In the *Carnivora* the ossicles of the *Fissipedia* differ from those of the *Primipedia* very strongly in type as well as in consistence. The laminated form of malleus prevails through the former. The crura of the stapes are straight and moderately divergent. The ossicles of the *Primipedia*, the other division of the *Carnivora*, are of a very dense consistence, and are very large absolutely and proportionally except in the family *Otiariidæ*.

The *Rodentia* are remarkable for extreme variety in form of the auditory ossicles in different families; nearly every type of malleus may be observed among them. A peculiar kind of anchylosis between that ossicle and the incus is exclusively found in certain groups of this order, and there is likewise great variety in the form of the stapes.

In the *Ungulata* the central type of malleus is the rule; the processus muscularis is usually present, but is not often of any length; the incus is rather large and variable in form; the stapes has a broad head, and is sometimes quadrilateral. In the *Hyæne* the ossicles are very similar to those of the *Ungulata*, but the incus is peculiar, the body being extremely small, while the crura are long and divergent.

The *Ossicula of the Insectivora*, as might be expected, offer great variation in different families. and there is no constant positive character to be found in any of the three ossicula. The stapes is more columelliform. The very frequent wideness of its intercrural aperture is not so much a sign of high type as an incidental feature in relation to a bony canal passing through it, or at least on account of a large vessel unsupported by such a canal running between the crura.

In all the *Chiroptera* the ossicula much resemble those of the *Sorecidæ*, and allied *Insectivora*, particularly the malleus. The incus has in all the *Chiroptera* a very short processus brevis, and very long divergent processus longus. The stapes is never columelliform; the aperture is generally wide; this is necessary for the transmission of an artery unsup-

ported by any bony canal, but may be considered as well to indicate an approach to the Primates.

The *Ossicles of the Cetacea* differ from those of the other mammalia rather in their solidity than in any great size in proportion to the whole skeleton. In size they are exceeded by the seals and Sirenia, in density by the latter, but in specialisation of form by no other mammals. The general diagnostic features are—in the malleus, constant firm bony ankylosis to the tympanic bone through the medium of the processus gracilis with ill-developed or completely suppressed manubrium. In the incus the great development of the stapedial crus; in the stapes thickness of the crura contracting or obliterating the aperture.

The *Ossicles of the Sirenia* are distinguished from their homologues in all other orders by their dense structure and clumsy form, and their peculiarity lies in their general conformation more than in suppression or peculiar development of any of their processes. Their modified general structure masks any homologies to the ossicula of other mammals.

The *Ossicles of the Edentata* exhibit considerable variety of type; the characters of the malleus and incus are very general, whilst the stapes assumes the Sauropsedan form in one group and approaches it in several others. Many instances are observed in this order of the ossicula of the adults of some genera resembling those of the young of others.

In the *Marsupialia* the ear-bones are always of a low type. No point showing a low grade of development in any ossicle of any Marsupial is not occasionally met with in the higher mammals, excepting that in the latter the ear bones are never seen to retain in so high a degree the foetal consistence.

The *Ossicula of the Monotremata* are very low, and correspond to their low form of skeleton, yet are thoroughly mammalian. Their distinguishing features are, a peculiar form of articulation between the malleus and incus by means of a scale-like development from the head of the former and the presence of an absolutely columelliform or unicate stapes. Otherwise the ossicles are not much modified from those of the lower Marsupials. A definite incus has long been admitted to exist articulated with the malleus, and ankylosed with it in some animals. The method of ankylosis is different from that seen in some Rodents. The column of the stapes probably represents the two crura of the stapes of the higher mammalia, but only a part of the column of the Sauropsidan columella. J. P. GARSON.

PASTEUR ON THE SPECIFIC CAUSATION OF EPIDEMICS BY PROTO-GERMS.

IN the course of some recent discussion at the Académie de Médecine, March 11th, M. Pasteur has expressed his views on the subject of "the epidemic influence", as it is sometimes called, in a very valuable manner. M. Pasteur does not believe in what are called sanitary influences and epidemic states; he does not believe in the existence of infected media outside the greater or less abundance of germs. This view has been suggested to him by the results of his researches on silkworm disease or pebrine, which was everywhere considered antecedent to his researches as depending on an infectious or epidemic state existing in the countries in which this malady reigned. At the time when M. Pasteur began his researches, that is to say in 1865, pebrine

had prevailed for seventeen years in the central departments of France, and especially in the department of Gard, where silkworms were reared on a large scale. He there established his field of observation, and at the end of two years he demonstrated that it was easy to expel the so-called epidemic malady, and to make it disappear by taking care to choose the grain, and to reject those on which the microscope revealed the existence of the parasite, and only to allow of the incubation of grain exempt from all morbid germs. Thus, thanks to the selection of the grain, and to the care which was taken to avoid parasitic contagion, pebrine completely disappeared from the middle provinces of France, and especially from the department of the Gard, which was the first to benefit by the discovery of M. Pasteur. M. Pasteur does not believe, then, that there is any infectious state properly so-called; everything is healthy or infected, according to him, just as there is an absence or an abundance of germs diffusing the disease either through the air or through the medium of men or of infected animals.

In respect to puerperal fever, in reference to which the discussion had been raised in this instance, M. Pasteur believes that he is on the track of the discovery of the primary organism which engenders this disease. He believes that he has observed it in the pus of an abscess in a young girl affected with angeioleucitis in the wards of M. Alphonse Guérin; also in the pus of an abscess from the heart of a horse, and again in the pus of multiple abscesses occurring, as the sequel of delivery, in a woman aged 40, in the wards of M. Vulpian in the hospital of the Pitié. This microzoon presented itself under the form of cells united to each other in series of two, four, and six, and each having a medium diameter of two-thousandths of a millimetre.

In order to explain the influence of media, which is often so strange and so difficult to understand, M. Pasteur cites the following fact, which he observed in his experiments in cultivating the primary organism of which he has recently made the discovery in the disease peculiar to poultry yards, and designated as cholera of fowls. This primary organism is grown most easily in fowl broth. If the attempt is made to cultivate it in a solution of yeast, which constitutes so excellent a fluid for the cultivation of the bacteridium of malignant pustule, it is impossible to succeed. The organism of the cholera of fowls does not multiply in the solution of yeast. If you take some drops of the limpid fluid containing the organism, and transplant it into any other fluid for culture, at first you seem to have obtained a new growth, but soon, at the end of twenty-four hours, nothing is to be found. These, said M. Pasteur, are facts which should render us very circumspect, and which show how many obscure things there are in the new field of research open to the study of infectious maladies. There are proto-organisms, which mutually destroy each other. If you sow at the same time in a cultivating fluid germs of the bacteridium of pustule, and germs of the microbion of fowl cholera, at first you get a result; but if you desire to reproduce the phenomenon with the same fluid you do not succeed.

There is, then, in the study of these phenomena much obscurity, but it is not right to rest on these negative facts, in order to attack the doctrine of germs, and to proclaim its fall; on the contrary, it must be conceded, that this theory deserves very great respect. M. Pasteur has, so to speak, in

spite of himself been impelled towards the applications to medicine and to surgery of the results of his prior labours, and he has ended by putting to himself this question—the only one which he feels deeply interested to solve—whether it be possible to arrive at the demonstration that such or such an infectious or contagious disease arises solely from the presence of a proto-organism. His researches on malignant pustule have proved to him that the disease was produced by the presence of the bacteridium discovered in 1850 by M. Davaine, and this demonstration was made by the application of the method of culture which M. Pasteur employed in 1857, and which enables him to obtain microscopic organisms in a state of purity—the only means of arriving at certain results. An infinitely small drop of the blood from a case of malignant pustule is taken, and it is sown in the cultivating fluid constituted by a froth of beer yeast; a little drop of this fluid is taken again, and sown in a new medium of the same kind, and so on. Thus the media of culture may be multiplied indefinitely to a certain extent, during years, by the aid of a single droplet of blood taken originally from the case, and one may have always a liquid, the inoculation of which in certain animals, such as the sheep or guinea-pig, reproduces in those animals malignant pustulæ. If this fluid is filtered through a plaster filter, nothing results from the inoculation of the fluid parts which have traversed the filter, but if the figurate elements which remain on the filter be inoculated, all conditions of the pustular disease are produced. It is the same with the cholera of fowls, and perhaps with puerperal septicæmia. Here, then, are two diseases which are infectious in the highest degree, and from the outset of which the theory of germs receives striking demonstration. Why should it not be the same with others? But time, and numerous and patient researches are needed, in order to succeed in dissipating the obscurities of a subject of which the study has hardly commenced.

Once more, far from condemning *à priori* the doctrine of germs, the most profound respect for it should be entertained, and it should not be blamed for phenomena which it has not yet been able to explain.

ERNEST HART.

CZERNY ON LAPAROTOMY WITH ANTISEPTIC TREATMENT.

THE *Archiv für Chirurgie*, Band xxiii, Heft 2, contains a report by Professor Czerny, of Heidelberg, on a series of cases in which laparotomy was performed, with an endeavour, in each instance, to maintain, during and after the operation, an antiseptic condition of the wounded parts. A full description is given of the details of the treatment carried out in these cases, which details differ somewhat from those observed by Lister. Professor Czerny, though holding by carbolic acid as an antiseptic superior both to thymol and to salicylic acid, regards it as a double-edged weapon, which should be used with much caution, and especially when the surgeon is dealing with an extensive serous surface. The operating room, after fumigation with sulphur, should be well heated. As soon as the patient has passed under the influence of chloroform, the surfaces of the abdominal walls and of the genitals are well washed and disinfected with a 2½ per cent. solution of carbolic acid. The seat of the operation is then surrounded by compresses dipped in this solution, and at the same time, in order to prevent

eczema through prolonged contact from the accumulated fluid of the spray, the back and sacral region are oiled and covered by layers of wadding. The instruments, for some time before they are used, are kept in the 2½ per cent. solution. For sutures the author uses silk boiled on the previous day during ten minutes in a 5 per cent. solution of carbolic acid, and then kept until required for use in a 2 per cent. solution. Silk thus treated is used also for ligatures. The two ends are cut off, and when the wound heals quickly and without suppuration, no irritation is set up by the presence of the noose in the soft parts. The silk ligature remains encapsuled within the tissues, and is not absorbed, as catgut is, which, in some operations, as the radical treatment of hernia and the deligation of an ovarian pedicle, may, according to Professor Czerny, be considered as an advantage. The sponges, having previously been disinfected in a stronger fluid, are placed, on the morning before the operation, in a 2 per cent. solution of carbolic acid. The wound, after the operation, is covered by Lister's dressing, and thick layers of "salicylic wadding", and, over all, a firmly constricting bandage. Compression of the abdomen is regarded as an important detail of the after-treatment, since by this means accumulation within the peritoneal cavity of putrescible exudation may be prevented. In one case only has the author hitherto practised prophylactic drainage of the abdomen in performing laparotomy.

Professor Czerny has practised abdominal section with the above described antiseptic dressings in ten cases. Of these ten operations, six were for ovariectomy, two for hysterectomy, one an incision in a case of suppurative peritonitis, and one an exploration in a case of doubtful abdominal tumour. In one only of these, and that an ovariectomy, was the result fatal.

In two of the instances of ovariectomy, both for cystoma of the ovary, the operation was attended with much difficulty, in consequence of adhesions, and it was found necessary to apply many ligatures. In one of these cases both ovaries were removed. In the second case a long and thick pedicle was first touched with the actual cautery, and subsequently, on account of renewed hæmorrhage, constricted by several ligatures. In all the other cases of ovariectomy the pedicle was dealt with only by ligatures. In one case the operation was very easy, since, notwithstanding a previous electrolytic treatment of some activity and duration, no adhesions had formed. The fourth case terminated fatally though it had presented the most favourable prognosis before and during the operation. On the fourteenth day, when the abdominal wound had closed without any signs of local reaction or any general affection, save a slight attack of intermittent fever, the patient suddenly became collapsed, and complained of severe abdominal pain. The case was then diagnosed as one of septic peritonitis, and treated by drainage of the peritoneal cavity and injections of thymol-water. After an interval of eight days, during which the patient had been much relieved and the prospects of recovery had been good, death resulted from acute pulmonary congestion, and a second sudden fit of collapse. At the autopsy a large abscess was found between the uterus and the rectum. In two of those cases of ovariectomy the fever after the operation was high, in two others it was slight, and in the remaining two cases there was no rise of temperature.

In the two operations for hysterectomy performed

in cases of multiple parietal fibromata exciting profuse hæmorrhage, much difficulty was experienced in maintaining an antiseptic condition of the seat of operation, in consequence of an extra-peritoneal treatment of the pedicle, and of the necessity of using for this purpose large and complicated apparatus. In one case a chain *écraseur* was used, and in the other two long needles. In the former case, in which both ovaries were removed, the operation was followed by thrombosis of the left femoral vein, and high fever. In the second case there was but slight rise of temperature. Although in both these instances of laparotomy the antiseptic treatment was so imperfect that the wounded parts could not be well protected from the contact of disinfected air, and extensive necrosis of the pedicle occurred, still decomposition of the exuded fluids was much retarded, and bad smell avoided.

In the ninth case, a large swelling, with a tough and fibrous exterior resembling the wall of a cyst, was exposed during an operation for the removal of a supposed ovarian tumour. On incision of the wall of this swelling, a large quantity of sero-purulent fluid was discharged from a cavity which was bounded above by the stomach and spleen, below by the uterus and bladder, and behind by a mass of united coils of small intestine. The surfaces of all the abdominal viscera were covered by thick and tough exudation. Four large drainage tubes were inserted into the sac of the abscess, and the external wound was dressed antiseptically. Some slight decomposition of the purulent secretion occurred in spite of this treatment, but there was very little fever during the subsequent progress of this case, and the patient ultimately made a good recovery.

The last case was one of a small abdominal tumour in a man who was the subject of right-sided cryptorchism. The growth, which lay in front of the spine, was so very painful that the patient eagerly demanded some operative means of relief. The tumour was diagnosed as being either a degenerated sarcoma of the retained testis, or sarcoma of a mesenteric gland. On exposure of the growth through abdominal section, it was found to be of the size of an ostrich's egg, and presented a white and fibrous external coat resembling the tunica albuginea. It was firmly bound down to the spine and over the aorta by very tough and vascular connective tissue, and over the front of the tumour coursed the flattened ureter from the right kidney. An attempt was made, but without success, to detach this tumour. The patient made a good recovery after the operation, and was much relieved through the cessation of pain in the growth.

Professor Czerny points out that the general results in these ten cases were favourable, although in four he failed to prevent inflammatory irritation and decomposition in exuded fluid. Fever, which is usually very high after abdominal section, was very slight in four of the cases, and altogether absent in three cases. In not a single instance were any symptoms observed of primary septic peritonitis. The hygienic condition of the hospital in which these operations were performed is reported to be very good, but still the results, from their exceptionally favourable character, have convinced Professor Czerny of the importance of always relying on antiseptic measures in the performance of laparotomy, and during the after-treatment of the external wound.

W. JOHNSON SMITH.

DÉJÉRINE AND DURET ON FATTY EMBOLA IN FRACTURES.

At the Société de Biologie (*Le Progrès Médical*, March 1, 1879), M. Déjérine stated that in November last he published two cases of fatty embola following osseous alterations. Since that time he had observed ten others; in examining the lungs of each of these cases, he had always observed very plainly the existence of fatty embola in a degree proportional to the intensity and extent of the osseous disturbance. He had also found, as had been seen by other authors, that death supervened shortly after the traumatism. In two cases only, were the fatty embola found in the liver and the kidneys. No opportunity had offered for observing a case where it was general, as had been many times seen in Germany. M. Déjérine had also made experimental researches on this subject, and these were carried out in the laboratory of M. Vulpian on a large number of dogs. By varying the procedure, the fatty embola had been produced in the animals in different degrees, varying from a very slight embolon, up to a very abundant amount, such as was seen in man after a large traumatism. The operations undertaken by M. Déjérine consisted at first, in the production of simple fractures without communication with the external air. In these instances the embola in the lungs were very slight, and sometimes caused no change. When, on the other hand, the osseous medulla was implicated, either wholly or in part, by the introduction of foreign bodies into its canal, the fatty embola were very manifest, and it was possible to follow the fat in the blood from the veins of the limb to the vessels of the lungs. If, instead of introducing into the medullary cavity an inert foreign body, such as a piece of iron, a substance was substituted which was capable of self-dilatation, as for instance the *laminaria digitata*, then the pulmonary fatty embola were obtained in an extremely considerable quantity, the lungs being literally injected with fat. These experiments confirm those of Berghmann and Halm. M. Déjérine remarked further that the embola produced by the introduction of pieces of *Laminaria* into the medullary canal were much more pronounced than those obtained by other experimental methods. It appears, therefore, very probable that fatty embolon in man follows a rapidly developed osteomyelitis, for by pressure from within outwards the fat penetrates the osseous capillaries, and so enters the venous circulation. In animals it is difficult to produce a true osteomyelitis, but in introducing a piece of *laminaria* into the whole length of the medullary canal, M. Déjérine found a persistent irritation of the medulla could be produced, and so an excentric compression of the medullary canal.

At the Société Anatomique (*Le Progrès Médical*, March 8, 1879), M. Duret stated that he had observed when with M. Verneuil, a case, which clearly showed the origin of the fatty embolon. The patient was a man with a fractured tibia, which, in consequence of movements and efforts made to rise, had been converted into a compound injury. Death rapidly took place. At the *post mortem*, around the wound was found a reddish zone, formed by ruptured blood capillaries; beneath this was a yellowish band, constituted by numerous very fine granulations and small oil globules. These were also found in the veins of the limb, and were similar to those composing the osseous medulla. Besides these, the debris of fatty globules derived from the peri-

ticular tissues were seen. M. Duret thinks it is therefore demonstrated, that the origin of the fatty embolon should be sought for in the veins coming from the injured site. T. F. CHAVASSE, M.D.

GRAUX, FÉRÉOL, AND OTHERS ON PARALYSIS OF THE RECTUS INTERNUS, WITH CONJUGATE DEVIATION OF THE EYE.

IN 1859, Dr. Achille Foville was the first who made the coordinations of the eyeball a special object of study, and who postulated the idea, treated at the time as purely hypothetical, that the abductor muscles of one eye, and the adductors of the other, must receive their nervous impulse from the same source. He illustrated his theory by the fact that two horses harnessed together are guided to the right or the left by means of one rein.

Subsequently, Professor Gubler, Dr. Desnos, and Dr. Féréol devoted much care and study to the same subject. M. Graux, in his *Thèse de Paris*, 1878, has availed himself of their observations, and adding some which he had had the opportunity of making, he was enabled to form important conclusions on the subject from anatomical, clinical, and physiological points of view.

Clinically, all the oculists who had studied the paralysis of the motor-muscles of the eye, did not go beyond acknowledging and describing, in the eye which was on the non-affected side, a secondary deviation which affected the rectus internus, and produced converging strabismus.

It has, however, now been proved by recent observations that there exists another form of paralysis of the external rectus, in the case where the rectus internus of the opposite eye, instead of moving in the opposite direction to its congener muscle, remains associated with it in its movements. Two different anatomical lesions correspond to these two different forms of paralysis of the external rectus. In the first form, which is also the one more commonly met with, the sixth nerve is found to be affected either after it has left the pons, or while it is still within it; in this case, however, the lesion does not affect the origin of the nerve, and only extends to the nerve filaments which run between the origin of the nerve and the spot where it emerges from the pons. A lesion of the origin of the sixth nerve corresponds to the second form of paralysis which is more seldom met with beneath the floor of the fourth ventricle. If, therefore, in examining a patient with paralysis of the sixth nerve, we should find a conjugate deviation of the right eye, we may be sure that there exists in the pons a lesion (hæmorrhage or tumour) which is restricted to the origin of the left sixth nerve. The precision with which this spot has been ascertained is most remarkable, as the lesion does not occupy more than the space of a few millimètres in the pons; and, up to the present time, the anatomical diagnosis has always been verified at the necropsy.

But another still more remarkable fact, which Féréol has been the first to observe, is that, in those cases, the conjugate deviation of the healthy eye only occurs in binocular vision at a distance, because here the healthy internal rectus works in conjunction with its fellow, the paralyzed external rectus; again, on the other hand, if both eyes are made to converge, looking at a point at a short distance, that is to say, if both internal recti work

together, the muscle on the healthy side will have recovered its normal action.

We may, therefore, infer from what has been said, that: 1. The nucleus of the sixth nerve not only supplies the motor nerve to the external rectus of the same side, but also sends a few fibres to the internal rectus on the opposite side, a phenomenon which Dr. Foville has been the first to observe. 2. That the internal rectus, which is evidently supplied with nerve fibres from the blind nerve, either obeys the latter (convergent vision at a short distance), or the fibres which run to it from the sixth nerve on the opposite side (vision at a great distance), as has been observed by Féréol.

ERNEST HART.

LARYNGOLOGY.

RECENT PAPERS.

1. ALTHAUS.—Excessive Secretion from the Nose. (*Brit. Med. Journ.*, No. 936, 1878.)
2. BRAUPOIL.—On Cauterisation in Diphtheria. (*Lyon Medical*, No. 2, 1879.)
3. BENOIT.—Epidemic Erysipelas. (*Gazette Médicale de Strassburg*, No. 12, 1878.)
4. BERGERON.—Antidiphtheritic Lotion. (*Union Médicale*, No. 141, 1878.)
5. BETZ.—Removal of a Foreign Body from the Nose. (*Monatsschrift für Ohrenheilkunde*, No. 12, 1878.)
6. BIRD.—False Diphtheria. (*Brit. Med. Journ.*, No. 941, 1879.)
7. BECKEL.—Facts towards the History of Tracheotomy by means of Thermocauterisation in the Child. (*Ann. des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 6, 1878.)
8. BROWNE.—Primary Epithelioma of the Tonsil. (*Brit. Med. Journ.*, No. 936, 1878.)
9. V. BRUNS.—On a Case of Extirpation of the Larynx. (*Wiener Medizinische Presse*, Nov. 17th, 1878.)
10. BURCHARDT.—A Spray Apparatus for the Treatment of Diseases of the Nasopharyngeal Cavity, and of the Organs of Respiration. (*Deutsche Med. Wochenschrift*, No. 49, 1878.)
11. BYRD.—Laryngo-tracheotomy; Successful Operation for Chronic Follicular Laryngo-pharyngitis, with Spasm of the Glottis. (*Philadelphia Medical and Surgical Reporter*, Vol. xxxix, No. 24, 1878.)
12. CARPENTER.—A Possible Predisposing Cause of Diphtheria. (*Brit. Med. Journ.*, No. 940, 1878.)
13. CHAMBERLAIN.—Infantile Laryngismus produced by a Feather in the Intestines. (*Philadelphia Medical and Surgical Reporter*, Vol. xxxix, No. 24, 1878.)
14. CHARCOT.—Laryngeal Crisis, or Laryngeal Vertigo in Ataxic Patients. (*Gazette des Hôpitaux*, No. 1, 1879.)
15. CHATTERJEE.—A Case of Nervous Aphonia. (*Indian Med. Gaz.*, Vol. xiii, No. 12, 1878.)
16. COHEN.—Laryngeal Phthisis. (*New York Med. Record*, Vol. xiv, No. 26, 1878.)
17. DESNOS.—Ulcerations of the Palatinal Mucous Membrane: Perforation of the Roof of the Palate. (*France Médicale*, Oct. 23rd, 1878.)
18. Diphtheria.—The Etiology of Diphtheria. (*Brit. Med. Journ.*, No. 937, 1878.)
19. Diphtheria.—Lessons from the Outbreak of Diphtheria in the Grand Ducal Family of Hesse Darmstadt. (*Ibid.*, Nos. 938, 1878; 940 and 941, 1879.)
20. DOWNES.—Diffusion of Diphtheria. (*Ibid.*, No. 938, 1878.)
21. EIGENBRODT.—Report of the Medical History of the Attack of Diphtheria in the Grand Ducal Family of Hesse Darmstadt. (*Ibid.*, No. 940, 1879.)
22. EIGENBRODT, OERTEL and JAEGER.—Report on the Diphtheritic Affections in the Grand Ducal Family in Darmstadt. (*Berl. Klin. Woch.*, No. 49, 1878.)

23. ELSBERG-RICE.—The Larynx in Cases of Leprosy (Elephantiasis Græcorum). (*New York Med. Record*, Vol. xv, No. 1, 1879.)

24. FERNET.—On Herpes of the Larynx. (*France Médicale*, Nov. 20th, 1878.)

25. FOX.—Remarks on a Disease known by the names of "False Diphtheria", "Spreading Quinsy", and "Cynanche Pharyngea". (*Brit. Med. Journ.*, No. 936, 1878.)

26. FRAENKEL, B.—The Application of the Sensitive Flame to the Diagnosis of Diseases of the Vocal Organ. (*Berl. Klin. Wochenschrift*, No. 51, 1878.)

27. FRAENKEL, E.—Pathological Anatomical Examinations in Ozæna. (*Virchow's Archiv für Path. Anatomie u. Physiologie*, Vol. lxxv, No. 1, 1879.)

28. GANGHOFNER.—The Occlusion and Obliteration of the Upper Air Passages. (*Prager Vierteljahrsschrift für praktische Heilkunde*, No. 1, 1879.)

29. GILLAM.—Case of Poisoning by Liquor Ammoniac. (*Med. Times and Gaz.*, No. 1486, 1878.)

30. GRUBER.—On Two New Cases of Retrotracheal Retention Cysts. (*Virchow's Archiv für Path. Anatomie, etc.*, Vol. lxxiv, No. 4, 1878.)

31. GRUET.—Ulcerated Gummata of the Nose and of the Velum Palatinum. (*Ann. des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 6, 1878.)

32. HARDY.—Tonsillar Chancre: Mechanism of Inoculation. (*Journal de Médecine de Bordeaux*, Oct. 5th, 1878.)

33. HART.—Spreading Quinsy. (*Brit. Med. Journ.*, No. 941, 1879.)

34. HARTMAN.—Intralaryngeal Growths. (*Virgin. Medical Monthly*, June 1878.)

35. HICKS.—Treatment of Diphtheria. (*Lancet*, Vol. i, No. 2, 1879.)

36. HOPE.—Case of Diphtheria, followed by Sudden Death. (*Brit. Med. Journ.*, No. 938, 1878.)

37. HOVELL.—On the Treatment of Diphtheria. (*Lancet*, Vol. ii, No. 26, 1878.)

38. JURASZ.—Contributions to the Diagnosis of Pharyngeal Laryngeal Paralysis. (*Deutsche Med. Wochenschrift*, No. 52, 1878.)

39. LARCHER.—Prescription for Whooping-Cough. (*L'Union Médicale*, No. 143, 1878.)

40. LAUDON.—A Contribution towards the Etiology of Epistaxis. (*Berl. Klin. Woch.*, No. 49, 1878.)

41. LEFFERTS.—Two Cases of Bilateral Paralysis of the Dilator Muscles of the Glottis (Musculi Crico-arytænoidei Postici): Cure. (*New York Med. Journ.*, Dec. 1878.)

42. LEWIS.—Treatment and Prophylaxis of Diphtheria. (*Brit. Med. Journ.*, No. 941, 1879.)

43. LINGARD.—Excessive Flow of Fluid from the Nose. (*Ibid.*, No. 938, 1878.)

44. LOEWI.—A Case of Pulsus Dicrotus in Severe Diphtheria. (*Allgem. Wiener Mediz. Zeitung*, No. 52, 1878.)

45. MCEWEN.—On the Internal Administration of Carbolic Acid in Diphtheria. (*Practitioner*, Dec. 1878.)

46. MACEWEN.—Oedema Glottidis. (*Brit. Med. Journ.*, No. 939, 1878.)

47. MACKENZIE.—Diphtheria, its Nature and Treatment, Varieties and Local Expressions. (*Brochure in 8vo.*, London, 1879, J. and A. Churchill.)

48. MASSI.—On a New Treatment of Ozæna. (*Morgagni*, September-October, 1878.)

49. MESNET.—Diphtheritic Angina: Multiple Paralysis following the Diphtheritic Attack. (*L'Union Médicale*, No. 147, 1878.)

50. MEYER-HÜNI.—Laryngoscopic Experiences. A Needle Sticking in the Larynx and Oesophagus during 140 days. Removal *per vias naturales*. (*Correspondenzblatt für Schweizer Aerzte*, S. A., 1878. Quoted from the *Centralblatt für die Med. Wiss.*, No. 50, 1878.)

1. *Excessive Secretion from the Nose*.—The author recollects, with respect to Sir James Paget's case of watery fluid dropping from one nostril (see LONDON MEDICAL RECORD for January 1879, p. 20), a similar one, which he has described in the *Med. Chir.*

Transactions for 1869. He concludes, from the analogy with his own, that Sir James's case also might take its origin in a removal of the inhibitory influence of the trifacial upon the nasal secretion, the sympathetic fibres which cause this secretion being now allowed to rule supreme. The consequence must be hypersecretion. Thus Dr. Althaus thinks Sir James's case will probably turn out to be one of injury or inflammation of the nasal twig of the ophthalmic branch of the fifth.

2. Strong condemnation of cauterisation in diphtheria.

3. *Erysipelas of Mucous Membranes*.—In a lecture on erysipelas, the author, when speaking of the erysipelas of the mucous membranes, states that the affection, although reaching these parts generally by continuity only from the external surface of the body, might make its appearance at first on the mucous membrane of the throat, and spread from here to the skin. Some illustrative examples are appended.

4. *Antidiphtheritic Lotion*.—B. Acid. salicyl, 3j; alcohol à 90°, 3jß; aq. dest., 3jij; F. sol. S. externally, to touch frequently the false membranes. (Carbolic acid may be used instead of the salicylic acid, or a solution of chloral in the strength of 1 to 100.)

5. *Removal of Foreign Body from the Nose*.—A child suffered from foetid secretion from the left nostril for four weeks. Examination showed a hard black foreign body in the left lower nasal duct. Attempts at removal by forceps and strong scissors failed. The foreign body was then easily divided into two pieces by the galvano-cautery, and the pieces extracted by forceps. The secondary lesions of the mucous membrane and of the bone healed readily under local applications of permanganate of potash.

6. *False Diphtheria*.—Bird describes an affection which does not seem to be quite identical with that described under this name by Dr. Fox (see No. 25 of this report). In his cases, as a rule, the mucous membrane of the posterior wall of the pharynx was first affected, whilst the tonsils were generally only secondarily attacked by the inflammation. There was no tendency to discharges from the nostrils or eyes. The patients were, in many instances, when remaining under the same insalubrious conditions, which in the author's opinion produce the disease (especially sewer-gas), attacked three or four times during the same year. The disease lasts generally in its acute form, manifested by pyrexia and headache, three to four days, the throat symptoms about a fortnight, terminating, if no treatment be adopted, in ulceration of some of the follicles, whilst in other parts a sort of granular pharyngitis, leading sometimes to very disagreeable symptoms, continues to flourish. Often the specific inflammation extends through the Eustachian tube to the middle ear, and there sets up the worst forms of ear disease. In no case was albuminuria present, nor has the author seen, in some hundreds of cases, a single fatal one. In houses in which this disease had run through the household, attacking the same persons repeatedly, it has vanished when the drains have been attended to. The author does not state quite distinctly his own opinion whether these cases belong to the department of diphtheria or not, but seems rather inclined to consider them as instances of an independent disease.

7. *Tracheotomy*.—The author comes himself to the conclusion that the best mode of operation (whether

by knife or by galvano-cautery) remains still an open question. It will appear, however, from the summary given in our French contemporary, that the galvano-caustic method, whilst not offering any material advantage (even the hæmorrhage is by no means less considerable than that produced by the use of the knife), demands three to four well-trained assistants; the wounds inflicted by it are larger, present an erysipelatous redness, and heal slower than those made with the knife. [The impartial conclusion to which the reporter has come after careful study of all the different views lately expressed on the other side of the Channel, is that the galvano-cautery is not at all likely to supersede the operation with the knife, and that its use will most likely be limited to such cases as that of Professor Krishaber, communicated in No. 45 of the last report.]

8. *Epithelioma of the Tonsil*.—Mr. Browne showed a patient, aged 39, at the Pathological Society of London, who suffered from this rare disease. As there was generally some difficulty in the diagnosis of these cases from syphilitic disease, Browne gave the following main points of distinction between the two affections: In syphilis there was no pain, except in swallowing; in cancer there was pain at all times. In syphilis there was no hæmorrhage; in cancer there was usually hæmorrhage at some period of the disease. In cancer, moreover, the glands became involved much earlier in the disease than in syphilis. In the ensuing debate, Mr. Parker mentioned that he had seen two cases of epithelioma of the tonsil in children.

9. *Extirpation of the Larynx*.—Carcinoma of the larynx in a patient aged 54. Long duration of the disease; aphonia; dysphagia. There was an epithelioma of the larynx, filling nearly its entire lumen. Extirpation on January 29, 1878, without previous tracheotomy, and from below upwards. The trachea was not earlier opened, and a tampon-cannula inserted, than when the parts, which were to be removed, had been completely laid bare. There was not much bleeding. The operation lasted forty-five minutes; at first collapse, afterwards, for a week, high fever. Three days afterwards an ordinary tracheotomy tube was inserted, and a fortnight after the operation this was replaced by a thick caoutchouc tube, the patient being able at this time to leave his bed, his general health being much improved. Five weeks later, Gussenbauer's artificial larynx was tried; the man soon learnt to speak in an audible monotone falsetto. [Quoted from Dr. Chavasse's report in the January number of this journal.]

10. *Burchard's Spray Apparatus*.—The main difference between this new modification and the generally used and well-known apparatus consists in the interposition of an india-rubber tube between the bottle, which contains the antiseptic fluid, and the solid silver tube from which the spray is blown, in order to facilitate the introduction of the latter into the diseased cavity.

11. *Laryngo-tracheotomy*.—The title of this communication appears to be rather incorrect. The operation was certainly performed to relieve the so-called "spasm of the glottis", but not for the cure of the chronic follicular laryngo-pharyngitis, although this unexpected result seems to have been obtained somehow. It seems from the description—for the same is too indistinct to allow of a certain conclusion—that the respiratory difficulty was a permanent one, although aggravated at times, especially when the patient was in a recumbent position, or after

sleep. It is hardly necessary to say that under these circumstances, no free intervals at all having been present, the case could not have been of a spasmodic nature, but most likely an instance of chronic oedema of the larynx or of some of its parts. This must remain, however, a hypothesis, as "it was not possible to examine with a laryngoscope". At last the operation of laryngo-tracheotomy was performed under great difficulties, all the distressing symptoms disappeared quickly, and the patient is now quite well.

12. *Causes of Diphtheria*.—The author, being a partisan of the germ-theory of the disease, suggests that the quantity of carbonic dioxide in the air should be noted in those localities in which diphtheria especially develops. He considers, from analogies with the development of other germs, that the presence of an abnormally high quantity of this gas in the atmosphere might be a possible predisposing cause to diphtheria. In accordance with this opinion he recommends ventilation, warmth, simple food, sulphurous acid, and creosote, as the best remedies for the disease, as well as the best means for preventing its extension.

13. *Infantile Laryngismus*.—Case of laryngismus stridulus, produced by irritation of the rectum in a child five months old. Around a feather, which had penetrated somehow (no details are given) into the rectum, a plug, $3\frac{1}{4}$ to 4 inches in length, and covered with puriform mucus, had been formed. Symptoms of laryngeal obstruction set in, resembling very much those of membranous croup. They ceased, however, at once, as soon as the feather was detected and removed (colic having accompanied the laryngeal affection).

14. *Laryngeal Crisis*.—Under this name Charcot describes a very interesting laryngeal affection attending on or preceding sometimes for several years the development of locomotor ataxy. It is characterised by a feeling of strangulation and of heat in the larynx; and by a peculiar laryngeal spasm, followed at once by falling down, and by an epileptiform attack. This may repeat itself several times in succession, as soon as the patient has again become conscious. This vertigo is not followed by nausea, and sometimes it is limited to the laryngeal spasm, without being followed by the epileptiform attack. Generally the patient falls forward. His disease is frequently mistaken for cerebral congestion. The entire attack is produced by an irritation of the superior laryngeal nerve (?). Professor Krishaber had examined the case which was shown by Professor Charcot as an illustration of the disease, and had found that the glottis was greatly narrowed, much more than normally. [It is much to be regretted that this statement is not precise with regard to the permanency of this laryngoscopic appearance, because this factor is of fundamental importance for the pathology of the entire affection. If the narrowing of the glottis be permanent in some degree, and this seems to be the case, from Professor Charcot's description, it would appear that the posterior crico-arytenoid muscles, which are supplied by the laryngeal recurrent nerve only, must have been involved in the morbid process. Altogether, the symptoms of the case described bear so strong a resemblance to those of an undoubted case of paralysis of these muscles, accompanying locomotor ataxy, shown by the reporter in the Clinical Society of London in April 1878, and recorded in the Society's *Transactions* of the same year, that the reporter cannot help believing that the case shown by the

celebrated professor, in illustration of his views on the certainly very rare symptom of locomotor ataxy, on which he lectures, was one of not yet far progressed paralysis of the posterior crico-arytaenoid muscles, accompanying the central disease.] Professor Charcot believes that we have no present remedy against these attacks, but thinks they might cease spontaneously.

15. *Nervous Aphonia*.—The case, which was not examined laryngoscopically, does not show any remarkable feature. Cure was effected within forty-eight hours by the administration of general stimulants.

16. *Laryngeal Phthisis*.—Dr. Solis Cohen delivered a clinical lecture on this subject at Jefferson Medical College Hospital. He remarks that he had never seen any case of laryngeal phthisis without more or less implication of the lung substance, and believes that in the apparently independent cases of throat-phthisis the coexistence of lung disease is not recognised, because the latter is not sufficiently advanced to be detected. [The reporter fully shares in this view, which has been of late practically corroborated by the excellent pathological researches of Heinze, see No. 36 of the Laryngological Report in the LONDON MEDICAL RECORD for January 1879.] The question, however, which is so decidedly answered in the affirmative by Heinze, that the great majority of the ulcerations in larynx and trachea are of tubercular nature, is left undecided by our author, who only remarks that he had never been able to detect tubercles in the larynx in a *post mortem* examination of the parts. As he says that the disease may possibly *begin* in the larynx, it is certainly strange that he believes, on the other hand, firmly in the supposed connection of lung-cavities with the origin of the laryngeal disease, which has been shown so clearly by Heinze not to exist. That the differential diagnosis of syphilitic and tubercular disease in the larynx should be mainly based upon the supposed law that in the former affection the ulceration begins in the palate and pharynx, and then affects the epiglottis, *i.e.*, progresses from above downwards, while in the laryngitis from tubercular origin the ulceration progresses from below upwards, attacking the posterior and lower part of the pharynx first, seems a somewhat dangerous principle, and apt to lead to fallacious and fatal conclusions. It is true that this is the rule, but this rule has so many exceptions with regard to the place of origin of the syphilitic disease, that it is hardly justifiable to make it the basis for the differential diagnosis between the two diseases. That the course of laryngeal phthisis should be "usually from four to seven years, and that in some of these associated cases of lung and throat disease the disease in the lungs would seem to be prolonged by the process in the larynx", whilst, "in these cases the extraordinary fact may be noted that, if the laryngeal disease is relieved, the lung trouble grows worse, and *vice versa*", are certainly statements which will be read with astonishment by many physicians. The course of laryngeal phthisis is certainly generally a very chronic one, but a duration of four to seven years may be considered as "usual" only if it be admitted with the author, that the pallor of the pharyngeal and laryngeal structures, which is certainly almost invariably present in cases of laryngeal phthisis, and may be seen often long before the actual outbreak of the disease, is a true "first stage" of the disease. This admission seems, however, equally unjustified, as the author's statement, that this symptom is "pathognomonic" for the

disease. Although, as we have just said, it is an almost invariable concomitant, and even precursor of laryngeal phthisis, it is certainly to be met with in many cases, in which an outbreak of phthisis will never occur, and the utmost that can and ought to be said is, that the presence of a pallor of the pharyngeal and laryngeal structures, peculiar to these parts, and contrasting with the otherwise rosy and healthy-looking appearance of the patient, should always remind the physician of the unfortunate probability of this symptom being a precursor of phthisis, and therefore should at once induce him to examine most carefully the patient's lungs, and especially their apices, even if no other symptom at all of imminent phthisis be present. As to the second statement, *viz.*, that there seemed to be a sort of antagonism in some cases of associated laryngeal and pulmonary phthisis, the one growing worse if the other be relieved, the reporter would venture to make the very natural suggestion, that this apparent connection, which is certainly but a subjective one, and existing in the patient's feelings only, is simply to be explained by the fact that the previous general complaints of the patient are now, having been partially relieved, more specially directed towards his remaining sufferings. Experiences demonstrating the probability of this suggestion are daily made in any complex disease, whilst to our knowledge no objective facts have been recorded proving a really existing antagonism between the affections of both parts.

There are some other points in Dr. Cohen's lecture the dogmatism of which provokes discussion, but the space allowed to this report does not permit us to deal with them. It may only be added that the author urgently recommends the use of the following solution : Acid. carbol. concentr., ʒ j. ; tinct. iod. comp., ʒ ij. ; aquæ q. s. ad., ʒ iij., in the form of a spray or of an inhalation. ʒ j. should be used three or four times daily.

18. *The Etiology of Diphtheria*.—In a leader in the *Brit. Med. Journ.*, those facts are collected which were brought forward with regard to the question of etiology in reports made to the Privy Council and to the Local Government Board from 1859 up to the present. Great stress is laid upon the conditions of damp soil, defective drainage, and polluted drinking water, which have evidently been present in most of the reported epidemics. The essence of the article, however, is an appeal to medical men specially engaged in sanitary work, to investigate further the theory brought forward by Dr. Thorne Thorne, that the property of infectiveness was capable of progressive development, or, in other words, that simple non-infectious inflammation of the fauces might, in the first instance, lead to more severe and infectious sore throats, and these in turn to genuine diphtheria (?).

19. *Diphtheria in the Grand Ducal Family of Hesse Darmstadt*.—In a series of leaders on this subject, the following general conclusions are derived from the terrible family epidemic at Darmstadt : 1. Fathers and mothers ought to be most strongly advised by their medical men not to allow their children to be kissed on the mouth by friends and occasional visitors. 2. Acute and chronic affections of the mucous membrane of the pharynx and tonsils in children ought to be much more energetically treated than is the rule at present. A *restitutio ad integrum* takes place much more rarely at the time of puberty than is the general belief. A chronically swollen, folded, and uneven mucous

membrane is much more prone to receive and to retain the germs of infection, of whatever nature they may be, than a healthy one. 3. A long-continued and repeated exposure to influences of contagion does not give immunity against infection, whilst the fatigues, anxieties, and exertions undergone by physicians, relations, and nurses, render them even more prone to be finally attacked by the disease. The patient is not free from the danger of communicating the disease to other persons until the mucous membrane of his throat is actually restored to the normal state. Caution in every respect ought, therefore, to be exhibited up to the last by physicians and nurses, nor ought other children to be brought back too soon to the infected house. 4. A very severe form may attack a patient who has become infected by another who has himself suffered but very slightly, and *vice versa*. Great caution is, therefore, necessary in pronouncing any prognosis. 5. We are not in the possession of any really specific remedy against the disease. 6. As we cannot vanquish the disease itself, we must combat its manifestations, and the causes which might conduce to a fatal termination. These are, mainly, local obstruction, high temperatures, with succeeding exhaustion of the vital powers, septic poisoning, and heart failure. 7. Even if repeated failures should occur, these principles must be adhered to at present, and the treatment must be a very active one. Few diseases require such energetic and permanent measures as diphtheria. 8. The precise indication for the moment when tracheotomy should be performed, is given by the recession of the patient's chest walls. Increased care is called for after its performance. Mechanical cleaning of the tube and of the interior of the larynx should alternate with inhalations through the tube, until the tendency to form membranous deposit has completely died out. 9. The pharyngeal pseudo-membranes ought never to be removed violently, as a forcible removal only facilitates a more rapid and deeper penetration of the septic poison into the tissues. Nothing but hot steam inhalations, to which antiseptic medicaments may be advantageously added, should be employed in order to produce quicker separation and expulsion of the pseudo-membranes. 10. The most important general treatment must consist in maintaining the patient's strength, by the administration of large doses of alcoholic stimulants, nutritious diet, and of iron, whilst the high temperature and the threatening septic infection of the system are combated by the administration of quinine, salicylic acid, benzoate of soda, etc.

20. *Diffusion of Diphtheria*.—The author, referring to Dr. Fox's paper in the *British Medical Journal* (see No. 25 of this report), expresses his conviction that the disease, which the latter calls a "spreading quinsy", is, in reality, a mild type of genuine diphtheria. He believes that from this mild form the severe type might be transferred, as, *vice versa*, a severe form of true diphtheria might give rise to an apparently trivial sore throat. Although admitting that septic virus may be intensified in its malignancy in each generation by transmission through successive subjects, he does not believe in Dr. Thorne's statement that an affection which is not infectious at first, could ever become developed into an infectious one. Finally, the author considers the transmission of the poison by sewers, water, or milk, exceptional, although he does not deny the possibility of such a way of dissemination.

21 and 22. *Eigenbrodt on Diphtheria*.—From the report it will be seen that all the members of the Grand Ducal family had more or less frequently suffered from affections of the mucous membranes of the throat (especially from tonsillitis and from granular pharyngitis). The physicians in charge give a short account of the outbreak of the disease in the Grand Ducal children and in the Grand Duke himself [the Grand Duchess had not yet been attacked at the time when the report was published.—*Rep.*], and attribute the intensity and limited extension of the epidemic to the following circumstances, viz.: 1. To the intensity of the affection, carried from outside, because the membranes in the case of the first patient looked from their first appearance discoloured and ecchymosed; 2. To the direct transference of the infectious matter by kisses; 3. To the condition of the mucous membrane of the pharynx and of the tonsils of the infected persons, all of them having suffered very frequently from acute and chronic affections of these parts.

23. *The Larynx in Leprosy*.—Rice communicates two interesting cases of leprosy, observed at Dr. Elsberg's clinic, which involved the larynx in an important degree. One was a lad, aged 19, born in Cuba; the other, a man, aged 45, who had for some years lived in Cuba. In the former, the disease seemed to be hereditary, but it did not make its appearance before the seventeenth year of age of the patient. The face was mainly affected ("leontiasis"). Two years after the outbreak of the affection, his voice became gradually changed; it is now husky and muffled, and, having sang formerly a high tenor, he cannot produce now any high sound. Constant attempts at clearing the throat, some dyspnoea after exertion. No difficulty in deglutition, but drinking of water is relieved by pressure on the thyroid cartilage. When examined with the laryngoscope by Dr. Elsberg, it was found that the air-passages have undergone changes similar to those on the face. All the portions of the mouth and throat rich in loose connective adipose tissues, are more or less involved, while, where the mucous membrane is attached more closely to the harder structures beneath, it is intact. The tongue is large, swollen, and fissured, but there are no ulcerations. The uvula is long, and the surface made uneven by the presence of several small tubers. With the exception of some hyperæmia and hypersecretion, there are no pathological changes on either the hard or soft palate or the pharynx. The laryngoscope revealed a large, thick, congested epiglottis. Its free margin had lost its symmetry, and seemed to be carried backward over the larynx by the weight of the tuberos masses, which covered it so that only its lingual surface could be seen. Such masses were on each side of the frænum, and extended forward toward the tongue. Only the arytenoid cartilages and parts of the vocal bands appeared in the mirror when the epiglottis was slightly raised during forced inspiration. To see all the parts required a number of inspections and manœuvres. The upper aperture of the larynx has become irregular and altogether smaller. The ary-epiglottic folds are tumefied and studded sparingly with small tubers. The ventricular folds present the same swollen and congested appearance, with a number of tuberosities, and partially cover the vocal bands, so that during phonation only the inner edges of the latter can be seen; these are white and glistening. The mucous membrane covering the arytenoid cartilages is greatly swollen and dark red in colour. Two tubers

of somewhat larger size are on the right arytenoid, and one on the left. The parts move sluggishly during phonation. The mucous membrane of the larynx and surrounding parts hypersecrete. The patient's general health is fair; he suffers considerably from mental anxiety. His appetite is good. He has no pulmonary or cardiac trouble, and the kidneys seem to be in a normal condition. The second case is very similar to the one just related. Some valuable general remarks are added. Dr. Elsberg thinks that the laryngeal affection is secondary to the cutaneous eruption, but an early symptom of leprosy. The prognosis is always unfavourable, if not fatal. The voice cannot be restored.

25. *False Diphtheria*.—Fox describes a form of epidemic tonsillitis, of which he has observed a great many instances. Its origin seems to be due to the influences of drinking polluted well water, or to some organic impurity of air. The resemblance with diphtheria is but a superficial one, as a pseudo-membrane is never produced, nor is it ever accompanied by albuminuria or followed by paralysis. The only points of difference between it and quinsy are, that it is communicable, that it is accompanied by a certain amount of anæmia and depression, and that the mortality from it is, probably, slightly greater. The author does not believe that it ever leads up to true diphtheria, but thinks that many cases of the infectious inflammatory sore throat of which he writes, might be reported as instances of that disease.

26. *The Manometric Flame*.—At a recent meeting of the Berlin Medical Society, B. Fraenkel explained Kœnig's apparatus constructed for the demonstration of the manometric flame. As regular and beautiful flames are only formed, if clear and musical voices be used, whilst hoarse or aphonic voices produce manifold changes in the picture, one is enabled to see hoarseness or aphonia by the use of this apparatus. Fraenkel does not, however, admit the use of it for diagnosing different degrees of these affections, because the apparatus is too sensitive and subject to too many different influences. On the other hand, it could be used with some modification (using two flames simultaneously) in order to demonstrate the diminution of the vocal fremitus over the paralysed side if one vocal cord be paralysed. Fraenkel, however, does not on the whole attribute much value to this symptom, first described by Gerhardt. An interesting discussion between the lecturer, and Dr. Tobold, especially on the latter subject ensued, from which, however, no harmonizing of opinion resulted.

27. *Ozæna*.—Starting from the very exact communication of the microscopical and minute changes found by the *post mortem* examination in the olfactory apparatus of four patients, who had suffered from ozæna, Eugene Fränkel (Hamburg) justly remarks, that ozæna is but a symptom and not a well-defined disease, and that many different morbid processes (chronic catarrh and ulcerations of the mucous membrane, or caries with or without necrosis of the bones, which compose the nasal cavity) might produce this symptom. Accordingly, the author's cases showed a very varying etiology: in one, there was chronic atrophic rhinitis, with acute catarrhal inflammation of the mucous membrane of the adjacent, especially of the sphenoid cavities; in the second, there was rareficient osteitis, with but secondary participation of the mucous membrane; in the third case, syphilitic ossifying osteitis, with partial caries and dependent ulceration of the nasal

mucous membrane; in the fourth, primary syphilitic disease of the nasal bones, without any lesion of the lining mucous membranes. The author thinks that these cases will confirm the views of those who believe that ozæna always owes its origin to a dyscrasia; two of his patients were phthisical, two syphilitic, but does not believe, though admitting the frequent coincidence of ozæna with pharyngitis sicca, that both diseases are in causal connection with each other. The study of the highly interesting article is warmly recommended to all readers, as this necessarily abbreviated abstract is by no means exhaustive.

28. *Occlusion of the Upper Air-Passages*.—Ganghofner has undertaken a task which well entitles him to the sincere thanks of the profession. He has made a very careful selection from the numerous publications of the last three years relating to the pathology and treatment of obliterative affections of the upper air-passages, and tries, by a comparison of the different views, to come to definite conclusions, especially with regard to treatment. The reader will find in the few pages, which his retrospect occupies, an excellent report of all the important recent publications regarding the pathology and treatment of nasal polypi, adenoid tumours of the nasopharyngeal cavity, and of the stenoses of larynx and trachea, produced by chronic blennorrhœa of these parts by the new disease, called chondritis vocalis inferior hypertrophica (see No. 69 of this report), by neoplasms, compression, etc. Moreover, the author's own views and conclusions are so moderate and well justified, that they may fairly be adopted by those members of the profession who have not had the opportunity of forming a judgment of their own on the questions concerned.

29. *Poisoning by Liquor Ammonia*.—From the history of the case, the following points may be gleaned which are of special interest in references to the changes produced in the pharynx by taking liq. ammonia. There was extreme dysphagia and pain in deglutition. The fauces were extremely congested and almost met in the middle line, the mucous membrane looked softened, œdematous, and inflamed. The patient having died three days after the poisoning had taken place, the *post mortem* examination showed general softening and partial destruction of the mucous membranes of the throat, with patches of hæmorrhage into the submucous tissue. There was considerable œdema of and around the epiglottis, marked congestion of the larynx down to the vocal cords, but no œdema glottidis.

30. *Cases of Retrotracheal Retention Cysts*.—The author calls "retrotracheal retention-cysts" not the hernia-like pouches of the tracheal mucous membrane, but the "mucous cysts" (Virchow) which owe their origin to the retention of the secretion in hypertrophied retrotracheal mucous glands, the apertures of which have remained open. They are extremely rare. One case has been communicated by Rokitsky in 1838, two cases previously by our author in 1869 and 1875, and now two new ones are brought forward by him. These are all on record. In both the new cases they were only accidentally discovered on dead bodies; but, as one of them had an enormous circumference when filled, viz., 5 centimètres, the author suggests that in cases of operation in the neighbourhood of such cysts, an accidental incision might not be without importance.

31. *Ulcerated Gummata of the Nose*.—A case well illustrating the excellent action of large and progres-

sive doses of iodide of potash even in very late stages of syphilitic destruction. Within three weeks, two perforations of the soft palate and a very bad ulceration of the nose, attacking the nasal cartilages, disappeared completely under its use.

33. *Spreading Quinsy*.—Mr. Hart expresses his conviction that the disease, which has been of late described by Dr. Cornelius Fox (see No. 25 of this report), and of which he has a good many instances, is but a mild form of true diphtheria. The short description which he gives of those cases, which have come under his own observation, fully justifies his belief.

34. *Intralaryngeal Growths*.—Eight successful cases of intralaryngeal removal of growth. Four of them were papillomata, two fibromata, two fibro-cellular neoplasms.

35. *Treatment of Diphtheria*.—Mr. Hicks's views agree with those generally accepted. He especially recommends a combination of the tincture of sesquichloride of iron (*old B. P.*) with chlorate of potash, and Duncan Flockhart's chloric ether.

36. *Diphtheria*.—Diphtheria of the fauces; spreading on the fourth day to the larynx; on the seventh day, paralysis of the soft palate; on the ninth, sudden death from heart failure.

37. *On the Treatment of Diphtheria*.—Mr. Hovell recommends "elimination" of the diphtheritic poison through the bowels and kidneys. He administers at the outset of the affection a "scavenger", viz., calomel, jalap and scammony, incessant chlorate of potash drinks, and, in cases of nasal diphtheria, the frequent aspiration of permanganate of potash through the nostrils. In cases of inability to swallow: four times daily nutritient enemata, consisting of a tumblerful of milk gruel, a new laid egg, and a tablespoonful of brandy.

38. *Diagnosis of Phonatory Laryngeal Paralysis*.—The author considers in some forms of phonatory paralysis the condition of the voice, not only as a very valuable means of diagnosis, but even as quite pathognomonic. In cases of a simple paresis, or *atony* of the adductors of the glottis, in which at the *beginning* of phonation the glottis is completely closed; in which, however, immediately afterwards, the vocal cords separate, and leave a triangular division between each other until the end of phonation; in such cases, he says, the voice completely corresponds with the laryngoscopic appearance. It is an aphonic voice, with short intervals of pure phonation. The short normal sound is heard when the patient *begins* to phonate after an inspiration; immediately afterwards, however, only an aphonic *bruit* can be produced. [The Reporter can fully corroborate this statement.] On the other hand, the author continues, a *laryngoscopic* symptom of phonatory paresis seems to have been overlooked up to the present. This is the lower stand of the diseased vocal cord. The symptom, which is at present taught as characteristic for a phonatory paresis of one vocal cord, viz., an excavation of its border resulting in a semioval form of the glottis, is by no means to be relied on, inasmuch as it is, in many cases, in no proportion to the actual trouble of the voice; and as it might be found on the other hand sometimes in cases with a thoroughly normal voice. [This remark also is quite correct.—*Rep.*] The lower stand of the diseased cord, however, produced by the minor degree of its tension, and the consequent minor degree of its elevation, through the contraction of the muscles of the vocal cords (?), can only occur in cases of phonatory paresis. The glottis *gapes*, not in a horizontal but in a perpen-

dicular or oblique plain. This is seen if the mirror be now held in a quite horizontal and symmetrical, but in a somewhat lateral position. Two cases illustrating these conditions are appended.

39. *Prescription for Whooping-Cough*.—R Fresh powder of cochineal, gr. xv; infusum florum tilia, 3ij; syrup. cortic. aurant., 5j. D. S. One teaspoonful every hour. [Instead of this, Vigier gives cochineal in the following form: R Cochineal, 9ij; carbonate of potash, 3ß; boiling distilled water, 5v; white sugar, 3viii. This gives a syrup which will keep well if reduced to 3ix. Two to four large tablespoonful of it may be administered *pro die*.]

40. *Etiology of Epistaxis*.—A patient suffered for nearly seven years from repeated and violent attacks of epistaxis from the left nostril, complicated by the feeling of a painful pressure on the left half of the nose. Rhinoscopic examination failed to detect any particular change. Styptic injections of acid ice-water, internal application of sulphurous acid and of ergot, were not successful in their results. Plugging of the nose was not permitted. One day, when sneezing, the patient suddenly expelled from the nostril a parasite, similar to a small earth-worm, which was classified by Professor Beneke as a moth, belonging to the class of Linguatulids, called *Pentastoma taenioides*. These animals are frequently met with in the frontal and nasal cavities of the dog, fox, and wolf, rarely of the horse and goat, sometimes of man. In this case it was not certain how the parasite could have penetrated into the patient's nose, but it was clear that it had produced the epistaxis, which at once and permanently ceased after its expulsion.

41. *Syphilitic Paralysis of the Abductors of the Vocal Cords*.—After a very excellent introduction concerning the history of this rare affection, and, after enumerating all the cases communicated up to the present, Lefferts puts on record two new typical cases, both of which were, as the history of the cases and the success of the treatment clearly proved, due to syphilis. Although in both cases the symptoms had attained very serious proportions, constitutional antisyphilitic remedies cured them in four and five weeks respectively, the glottis having resumed its normal aspect, and the dilator muscles acting properly. The cases cannot be doubted, and are of great value with regard to the etiology of the disease, as the only case on record, in which the affection could be traced to syphilis (Hansen's case; *Petersburger Med. Wochenschrift*, 1876, No. 6), is somewhat debatable.

42. *Treatment of Diphtheria*.—Dr. Lewis recommends that the attendants on cases of diphtheria should be considered as being also affected for the time, and be treated accordingly with sulphurous acid gargle, nitro-hydrochloric acid internally, as large a quantity of nourishment as possible, given assiduously day and night, and with alcoholic stimulants, according to circumstances. He has pursued this treatment for many years, with unvarying success.

43. *Flow of Fluid from the Nose*.—Mr. Lingard relates a case, which was characterised by similar symptoms to that of Sir James Paget (see No. 68 of last report). He thought at first that the escaping fluid was cerebro-spinal fluid, and that the escape was due to some fracture of the cribriform plate of the ethmoid, the patient having fallen from a height of forty-five feet on his forehead fifteen years previously. The flow only took place when he inclined his head forward. Accidentally the author discovered that the patient in the morning used to put

his face in a basin of water, and alternately drew up and expelled the water from his nose. When this practice was discontinued the discharge ceased, and has never recurred since.

44. *Pulsus Dicrotus*.—The first observation of dicrotism of pulse in diphtheria. The patient, a child aged 6, died from paralysis of the heart three days after the symptom had been observed (see LONDON MEDICAL RECORD for February 15, page 61).

45. *Carbolic Acid in Diphtheria*.—Dr. McEwen recommends the internal use of carbolic acid in diphtheria.

46. *Oedema Glottidis*.—Dr. Macewen showed a patient at the Glasgow Path. and Clin. Soc., whom he has successfully treated for acute oedema glottidis, by the introduction and keeping in place for thirty-six hours of hollow tubes *per vias naturales*. He has thus practically shown the advisability of Hack's (see No. 34 of last report) suggestion, viz., to employ catheterism of the larynx in cases of acute oedema.

47. *Diphtheria, its Nature and Treatment*.—Dr. Morell Mackenzie here presents the profession with one of the best and most complete essays on diphtheria which have ever been written. Having very decided opinions on those points, on which the views of practitioners still considerably differ, he always leaves to the reader the opportunity of judging for himself by quoting most impartially and extensively the views of his opponents, and then giving his own reasons for his own opinions. Thus the little book is especially remarkable as a well-arranged epitome of all the different views on the etiology and propagation of the disease, adopted at present in different quarters. After an excellent historical introduction, which is certainly more than a simple "sketch", as the author calls it, the etiology of the affection is discussed. Dr. Mackenzie does not believe in an autochthonous origin of the affection. A remarkable case observed by the reporter last year, apparently proving the contrary, is candidly communicated, but it is justly remarked that this case also could be explained in accordance with the theory of contagion. On the other hand, the author does not consider the theory of the parasitic origin of diphtheria to be proved at present in a convincing manner. Many modes of diffusion and of the manner in which the poison enters the system are admitted, a deserved stress being laid upon direct contagion. The next chapter is devoted to an excellent description of the different forms of the disease and to its symptoms, a special chapter being accorded to the most common sequelæ, viz., to the paralyses of different parts of the body. Then follows the discussion of the pathology, being, as we have said, a very clear *résumé* of the present views on this important question. One of the most important chapters is the next, written in a masterly manner. Dr. Mackenzie rightly does not believe in specific remedies in diphtheria, but gives very good outlines for the combination of the constitutional treatment (which must be directed towards the keeping up of the patient's strength, and against the fever and the septic poisoning) with the local. Mentioning here nearly all the remedies which have been so emphatically recommended of late from different quarters, he shows that none of them act as a specific, and that our efforts, therefore, with regard to the local treatment must mainly have in view the acceleration of the normal process of the disease. For this purpose, according to Oertel's theories, the frequent use of hot vapour inhalations, to which solvent remedies might be added with advantage, is re-

commended. An entirely new idea (long practised by the author before the publication of Nicati's experiments, which, however, considerably augment its scientific value) is the varnishing of the affected parts by means of ethereal solutions of tolu (1 to 5), mastic, benzoin, and resin, in order to exclude the access of air to the false membranes, and thus to exercise antiseptic influence. A very instructive theoretical example of the course which the disease may take in a child, and of the treatment to be adopted, concludes this excellent chapter. Not less important is the next part of the work, entitled, "Laryngo-tracheal diphtheria, formerly called croup." This title shows at once the author's standpoint in the at present so much discussed question of the relations of these two diseases: he is a most decided advocate of their identity. Space will not allow us to enter here into his very interesting argument, but it may fairly be said, that even the adversaries of the author's opinions will gladly acknowledge the largeness of his views. The symptoms of this form of diphtheria and their treatment are well described, and particular stress is laid upon the performance of tracheotomy in suitable cases. The book concludes with a short discussion of nasal, and of the so-called "secondary" diphtheria. It is not necessary to recommend it, for it will recommend itself.

48. *New Treatment of Ozena*.—Massei, starting from the improved theory of a parasitic origin of ozena, recommends the following treatment: *a*. Gradual dilatation of the obliterated nasal passages by means of elastic bougies; *b*. Cleaning and disinfection of the diseased regions by a very weak solution of salicylic acid (1 part to 500 parts of water) applied by means of a syringe; *c*. Modifying local medication, by blowing calomel powder through a nasal speculum on the ulcerated surfaces. The author says, that there is always an arrest in the process of healing at a certain period, but advises strongly not to give up this treatment, but to continue it patiently until total cure is obtained.

49. *Diphtheritic Angina*.—A very exact observation of his own case by one of Dr. Mesnet's pupils, who had acquired the disease at the bedside of a patient.

50. *Needle in Larynx*.—A girl, aged 15, swallowed a needle while falling. Acute symptoms ceased a week later, attempts at removal having failed. Complete aphonia remained. Three months later, the point was seen within the larynx above the anterior commissure, the end within the œsophagus above the inter-arytænoid fold. It was clear, therefore, that the needle had perforated the posterior wall of the larynx. The end was seized with œsophageal forceps and pressed down until the needle was entirely withdrawn from the larynx into the œsophagus, when it was easily removed.

FELIX SEMON, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. SCHRÖDER.—A further series of Fifty Ovariectomies. (*Berliner Medicinische Wochenschrift*, 1879, No. 1.)

2. RIBEMONT, A.—When should the Umbilical Cord be tied? (*Annales de Gynécologie*, Feb. 1879.)

3. MARTIN, AIMÉ.—Uterine Fibro-Myomas treated by continued Electric Currents. (*Annales de Gynécologie*, Feb. 1879.)

4. DUNCAN, MATTHEWS.—Remarks on Antiseptic Midwifery. (*Brit. Med. Jour.*, Feb. 15 and 22, 1879.)
5. WILSON, H. P. C.—Inversion of the Uterus. (Paper read at the Baltimore Academy of Medicine, Dec. 3, 1878.)
6. SAWYER.—Partial Inversion of the Uterus. (Chicago Gynecological Society, Nov. 29, 1878.)
7. BURDEL.—Inversion of the Uterus. (*Annales de Gynécologie*, Feb. 1879.)
8. DUER, E. L.—Post Mortem Delivery. (*American Journal of Obstetrics*, Jan. 1879.)
9. MILES, A. J.—The Forceps in difficult Breech Deliveries. (*Ibid.*)
10. BERMUTZ, G.—On Membranous Dysmenorrhœa. (*Archives de Tocologie*, Feb. 1879.)
11. DUNCAN, MATTHEWS.—On a Scar produced in the Fœtal Head before its entrance into the Brim of the Pelvis. (*Obstetrical Journal of Great Britain and Ireland*, Feb. 1879.)
12. GODSON, CLEMENT.—Remarks on two cases of Vesicular Mole. (*Ibid.*)
13. SCHULTZE, B. S.—A New Method of replacing obstinate Retroflexions of the Uterus. (*Centralblatt für Gynäkologie*, Feb. 1, 1879.)
14. LEOPOLD, G.—Polypt of the Fallopian Tubes in Interstitial Pregnancy. (*Ibid.*)
15. SINÉTY, DE.—Manual of Gynecology, Part 1. (Octave Doin, Paris, 1879.)
16. PLAYFAIR, W. S.—Note on Intra-uterine Medication and Sterility. (*Obstetrical Journal of Great Britain and Ireland*, Feb. 1879.)
17. BEIGEL, HERMANN.—Pathological Anatomy of Sterility in Women. (Viewieg und Sohn, Brunswick, 1878.)
18. GOODELL, WILLIAM.—Vegetations of the Endometrium. (*Philadelphia Medical Times*, Jan. 18, 1879.)
19. BAUMGÄRTNER, J. VON.—Three Laparotomies in three years on the same patient: Recovery. (*Berliner Klinische Wochenschrift*, Feb. 3, 1879.)
20. MUNDÉ, PAUL F.—The Indications for Hystero-Trachelorrhaphy, or the operation for laceration of the Cervix Uteri. (*American Journal of Obstetrics*, Jan. 1879.)
21. DOBRONRAVOW.—Double Ovariectomy: Recovery. (*Bulletin de la Société de Chirurgie de Paris*, Sept. 11, 1878.)
22. POZZI.—Double Ovariectomy: Recovery. (*Ibid.*, Sept. 18, 1878.)
23. BYFORD, W. H.—Double Ovariectomy and Hysterotomy. (*American Journal of Obstetrics*, Jan. 1879.)
24. THOMAS, J. GAILLARD.—The History of Six Cases of Abdominal Pregnancy. (*American Journal of Medical Sciences*, Jan. 1879.)
25. HARRIS, R. P.—A Study and Analysis of One Hundred Cesarean Sections performed in the United States during the present century and prior to the year 1878. (*Ibid.*)
26. HARRIS, R. P.—Lessons from a Study of the Cesarean Operation in the city and state of New York, and their bearing upon the true position of Gastro-elytomy. (*American Journal of Obstetrics*, Jan. 1879.)
27. RICHARDSON, W. L.—The Recurrence of Nausea and Vomiting during the latter months of Pregnancy. (*Ibid.*)
28. BUSKEY, C.—The Potassium Bromide and Suspension of the Action of the Stomach in the treatment of uncontrollable Vomiting of Pregnancy. (*American Journal of the Medical Sciences*, Jan. 1879.)
29. DORISON, J. B.—Removal of a Subperitoneal Uterine Fibroid Tumour by Gastrotomy: Recovery. (*American Journal of the Medical Sciences*, Jan. 1879.)
30. MCLEAN, LEROY.—An Instructive Case of Ovariectomy. (*New York Medical Record*, Feb. 8, 1879.)
31. CHIARA, D.—Cesarean Ovaro-hysterotomy. (*Annali di Ostetricia, Ginecologia, e Pediatria*, Jan. 1879.)
32. MAUGHS, G. M. B.—Placenta Prævia. (St. Louis Obstetrical and Gynecological Society, Sept. 19, 1878.)

2. *Ligature of the Umbilical Cord.*—Dr. Ribemont, at the end of an exhaustive paper, arrives at the following conclusions. Tardy ligature of the cord gives the child an additional quantity of blood, which may be estimated at 92 grammes. The cause of the penetration of the blood into the circulatory system of the child is due to thoracic aspiration as stated by Budin; and the pressure from the uterus, noted by Schücking and Porak is only an adjuvant. In cases of asphyxia of the new-born child the immediate ligature is contra-indicated, as in bleeding from the cord. Tardy ligature exposes the child to no dangers of any sort. As pointed out by Schücking and Budin, the tardy ligature of the cord favours expulsion of the placenta, and renders its passage through the os uteri more easy. The ligature should not be applied to the cord until the complete cessation of the beating of the umbilical vessels.

4. *Antiseptic Midwifery.*—Dr. Matthews Duncan states that, in the Royal Maternity Hospital of Edinburgh, he had about one hundred patients in two periods of three months treated antiseptically, with a result of no maternal mortality and an extremely small morbidity. The special precautions used were: all washings of the pudenda with carbolic water; ointment used in vaginal examinations carbolized. The physician and students washed their hands in carbolic lotion. In maternity hospitals, antiseptics have proved of decided value, rendering healthy what were previously unhealthy, reducing the mortality of the lying-in from exaggerated amounts to a level with, or even below, that of private practice. He describes the rigid antiseptic measures used by Bischoff, but these are also given in detail in the LONDON MEDICAL RECORD for 1878. Zweifel's and Schücking's antiseptic precautions have also been the subjects of *résumés* in the same journal.

5. *Inversion of the Uterus.*—Mrs. E. B., aged 19, secundipara. The attending physician stated to Dr. Wilson that her second labour was natural, but that on pressing the uterus and tightening the umbilical cord gently with the other hand, the after-birth came away with a sudden splash and the uterus protruded about two inches at the vulva. He pushed it back at once and thought no more about it. Six months later, Dr. Wilson saw her, and found an inverted uterus occupying the vagina, and projecting through a dilated os uteri by a neck or pedicle. It closely resembled a fibroid polypus of the uterus. On bi-manual palpation *per rectum* and *per vaginam* the body of the uterus could not be felt. At the next menstrual epoch the menstrual fluid could be seen oozing from the surface of the inverted uterus, just like the sweating of perspiration from the surface of the skin. The inversion was reduced under chloroform by grasping the fundus with the hand and the cervix with the fingers and making steady pressure upwards against steady pressure downwards from above the pubes. This manipulation succeeded at the end of one hour. The uterus was then mopped out with sulphate of iron and glycerine. The patient recovered in a few weeks.

6. *Partial Inversion of the Uterus.*—Dr. Sawyer was called to a multipara in labour, whom he delivered of a living male child under the influence of ether by the forceps. The placenta was detached spontaneously, ten minutes after. There was an unusually large quantity of amniotic fluid, which greatly distended the uterus. The uterus was very flaccid and reached to the umbilicus, but was *uniformly rounded*. Fifteen minutes later, the patient became pale and a brisk hæmorrhage was going on.

A New Remedy—W. R. Warner & Co.'s



By A. F. SHELLY, M.D., of Philadelphia.

"This is obtained from the gizzard of the domestic fowl (chicken), and is a *Specific for Vomiting in Pregnancy*. I have used this remedy for twenty-five years, and it has never failed. It is also the most *powerful and reliable remedy* for the *Cure of Indigestion, Dyspepsia, and Sick Stomach*, caused from the debility of that organ. It is useful in all cases where pepsines and pancreatines are used, but with much more certainty of its good results, for it puts all those preparations, in my experience, in the background.

"In complicated affections of the stomach, such as *Inflammation, Gastralgia, Pyrosis*, etc., it may be combined with Subnitrate of Bismuth and opiates; and in *Diarrhoea and Cholera Infantum*, with astringents, both vegetable and mineral. I have given the article to several prominent physicians, who have used it with the happiest results, among whom I may mention Professor E. WALLACE, of the Jefferson Medical College. He gives me the results of seventeen cases, as follows:—

"IN VOMITING OF PREGNANCY, out of nine cases he cured six, and palliated two, and in one case the remedy was not taken according to direction, and therefore had no effect.

"He used it in seven cases of Sick Stomach, caused by chronic inflammation of the uterus; cured five, and two remained doubtful. He also used it in a case of very obstinate Sick Stomach, caused by irreducible hernia, and says this was the only remedy that gave any relief.

"The dose is from five to ten grains, hardly ever more than five, except in obstinate cases. For children, from one to five grains. My mode of administering it is in a spoonful of water or tea, or it may be strewn on a piece of bread and covered over with a little butter; it is, however, nearly tasteless. In Dyspepsia and in Vomiting in Pregnancy, I direct it to be taken half an hour or so before each meal. In other affections of the Stomach and Bowels, every two to four hours. I give it uncombined, except in complicated cases, as heretofore mentioned.

"The methods by which this principle can be obtained from the viscous are various. When I commenced to employ it, I used it in rather a crude state, by pulverising the lining membrane of the gizzard; but it requires too much care and precision in the drying and cleansing operation, in order not to destroy its virtues. There is also great inconvenience in obtaining the viscous during the heat of summer and extreme cold of winter, as temperature is one of the main things to be observed in order to preserve its efficacy, purity, and sweetness. Later, finding this mode of preparation unsatisfactory and inconvenient for the above reasons, I consulted with WM. R. WARNER & CO., 1228, MARKET STREET, PHILADELPHIA, who have prepared a form, designated INGLUVIN; its purity, and also its good effects, I can vouch for."—*The Medical and Surgical Reporter*, February 3rd, 1877.

* * Physicians will please see that no other Article is substituted.

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3.	Pil. Phosphori cum Nuce Vomica	4	6	15.	Pil. Phosphori cum Morphia et Zinco Valer ..	6	0
4.	Pil. Phosphori cum Ferro	4	6	16.	Pil. Phosphori cum Aloe et Nuce Vomica ..	4	6
5.	Pil. Phosphori cum Ferro et Nuce Vom. ..	4	6	17.	Pil. Phosphori cum Zinco Co.	4	6
6.	Pil. Phosphori cum Ferro et Quinia	8	0	18.	Pil. Phosphori cum Opio et Digitale ..	4	6
7.	Pil. Phosphori cum Ferro et Quinia et Nuc. Vom. ..	8	0	19.	Pil. Phosphori cum Strychnia	4	6
8.	Pil. Phosphori cum Quinia	8	0	20.	Pil. Phosphori cum Cantharide Comp. ..	4	6
9.	Pil. Phosphori cum Quinia Co.	6	0	21.	Pil. Phosphori cum Belladonna	4	6
10.	Pil. Phosphori cum Quinia et Nuc. Vom. ..	8	0	22.	Pil. Phosphori cum Ferro et Strychnia ..	4	6
11.	Pil. Phosphori cum Quinia et Digitale Co. ..	6	0	23.	Pil. Phosphori cum Ferro et Quinia et Strychnia ..	8	0
12.	Pil. Phosphori cum Digitale Co.	4	6	24.	Pil. Phosphori cum Ext. Aconiti	4	6

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ANODYNE AMYL COLLOID.

(Secured by their Registered Trade Mark.)

STRONGLY recommended as a most valuable topical application in cases of Neuralgia, Sciatica, Lumbago, and all Muscular Pains. It is prepared with Hydride of Amyl, Aconitia, Veratria, and Ethereal Collodion. The Hydride of Amyl, by its rapid volatilization, often produces immediately the desired result; but should the pain continue, the alkaloids can be brought into increased activity by applying moist Spongio Piline over the Collodion film. This preparation has now been in use for a sufficient time to test its value, and has, in the hands of a large number of medical men, given the most marked and satisfactory results in Neuralgia and Muscular Rheumatism.

TREATMENT OF NEURALGIA.—Letter from Mr. METCALF JOHNSON.

[To the Editor of "THE MEDICAL TIMES & GAZETTE".]

"SIR,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is to my mind so likely to afford relief to suffering humanity that I do not feel justified in withholding it. The treatment consists in painting the part affected with 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelseminum and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

"J. P. called one morning, suffering from facial Neuralgia in all the four points of the surface development of the facial nerves. I painted his face over the four spots, and before the liquid was dry his pain was gone. It returned the next day, but was again relieved by the remedy, the relief lasting for twenty-four hours.

"I met A. B. in the street, who was complaining of an obstinate Neuralgia, which had resisted several of the usual remedies. A trial of the treatment here indicated was attended with immediate relief.

"It has been tried, I believe, at my suggestion by one member at least of the family of three of my professional brethren.

"A patient suffering from podagric Neuralgia of the forearm finds such relief that frequent resort is had at night to the use of the painting with the ANODYNE COLLOID.

"A few days since, a lady suffering from that painful affection called 'soft teeth', caused by caries, and in whose case considerable swelling was apparent, found immediate and permanent relief by painting the cheek with the remedy.

"A clergyman, of a very high nervous organization, and in whom, as is often the case, considerable strength of mental power is developed, described the relief which was obtained by the use of both the remedies as 'like magic'. In several other instances, of which I have kept no record, relief has been obtained by the use of one or both remedies.

"Hoping this will induce more of your readers to try the remedies suggested, I leave the case in your hands, merely adding that the ANODYNE AMYL COLLOID professes to be a solution of Aconitine and Veratrine with Hydride of Amyl in a medium of Collodion; but the proportions are not stated. The Tinctures of Gelseminum and Guarana are in all probability better known to your readers. I have, at the request of Messrs. FERRIS and Co., already given them my testimony to the value of their preparation, in a letter addressed to them a few weeks ago. If you will kindly insert these few remarks in your paper, I think you will oblige many of your subscribers, as you will also,

"LANCASTER, May, 1878."

"Yours, etc.,

METCALF JOHNSON."

From "THE MEDICAL RECORD", London, May 15th, 1878.

"We have submitted to trial the 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., of Bristol. It is prepared with Hydride of Amyl, holding in solution Aconitia and Veratria, and combined with Ethereal Collodion. We have tried it in Neuralgia and Muscular Pains with marked benefit.

"The Amyl rapidly volatilizes, leaving a Collodion film on the skin.

"The intensity of the action of the alkaloids may be increased by the subsequent application of spongio piline moistened with warm water."

FERRIS & CO.'S ANODYNE AMYL COLLOID,

In 1 oz., 2 oz., and 4 oz. Bottles, 1s. 6d. per oz.; in 8 oz. and 16 oz. Bottles, 1s. 3d. per oz.

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BRISTOL.

Dr. Sawyer administered ergot and placed some ice in the vagina. When the uterus contracted, its upper border was not rounded upward, but was represented by a straight, hardened edge, extending transversely across the hypogastrium. This edge was quite like the rim of a bowl. It now flashed upon Dr. Sawyer that the fundus had fallen down into the cavity of the organ. From this moment the uterus was in a state of tonic spasm, as if completely ergotized. At no time could the slightest relaxation be felt. On vaginal examination, a segment of prolapsed fundus could be felt through the os uteri. Dr. Sawyer endeavoured to push the fundus up by his hand through the os, but he made no impression upon it; the organ felt like cartilage. The patient fainted during this manoeuvre. In half an hour a second attempt was made in vain; the patient again fainted. She became delirious, tossed off every atom of clothing, and died about three hours after delivery, rather more than two hours after the inversion was recognised, and about one hour after the second effort at replacement of the fundus. *Post mortem* examination revealed the uterus in the state described. No lesions were present.

7. *Inversion of Uterus*.—Dr. Burdel relates a case of complete inversion of the uterus in a primipara aged 21. On his arrival he found the uterus outside the vulva, with the placenta adherent. He peeled off the placenta and returned the uterus with ease, the os uteri being fully relaxed. There was abundant hæmorrhage. Two and a half years later she again became pregnant and was delivered without accident. Since then she has had two other children, the last six years ago. The point to which Dr. Burdel draws attention in this case, is the fact that although she has been pregnant three times since the inversion took place, and has suckled her children, she has never once menstruated since the inversion. Her menstrual functions were normal before the first pregnancy. Fifteen years have elapsed since the inversion of the uterus took place.

13. *A New Method of Reducing Retroflected Uterus*.—Professor Schultze employs the following manipulation in the reduction of obstinate cases of retroflexion. The index and middle fingers of one hand are passed into the vagina; the middle finger is then passed into the retroflected uterus as far as the fundus; it is then bent back so as to reduce the flexion. The other hand, placed over the abdomen, takes note of any unevenness or adhesions on the peritoneal surface of the uterus. The uterine orifice is dilated with laminaria tents before the above manipulation is practised.

17. *Pathology of Sterility*.—This is a laborious work of 419 pages and 113 wood-cuts. It deals with the anatomy of the female genital organs, their physiology and their pathology. Under the heading of pathology are discussed, abnormalities of development, cancer, metritis, flexions, and ovarian disease. The work is in fact a compendium of pathology of the uterus and its appendages. Most of the illustrations are original and drawn from nature. Many are coloured. Part v is devoted to the mechanism of sterility, but no fresh light is thrown upon it. Nor does Part vi, which describes the treatment, contain anything new, but rather goes back to methods which have been discarded in this country.

19. *Three Laparotomies on one Patient*.—Dr. Baumgärtner performed ovariectomy on Sept. 28, 1875, on Caroline S., aged 33. The left ovary was removed, and the pedicle secured by a Spencer Wells' clamp. The end of the pedicle grew into

abdominal wound. In December 1876, the patient, whilst lifting a heavy can of water, felt a sudden sharp pain in the pedicle. The pain increased and became continuous, and there was considerable dysuria. Dr. Baumgärtner determined to open the wound and see what could be done. On March 3, 1877, he performed the second laparotomy. The pedicle was found adherent to coils of intestine, to the omentum, and to the posterior wall of the bladder. These adhesions were separated, and the pedicle was also severed from its attachment to the abdominal wound. The abdomen was closed and the patient recovered and remained free from pain until January 1878, when she returned complaining of right ovarian pain, which was persistent and intolerable. On examination, there was a sausage-shaped swelling to be felt in the region of the right Fallopian tube. On August 19, 1878, the third laparotomy was performed. The normal and slightly swollen right ovary and the inflamed Fallopian tube containing pus were removed. The first operation was not done antiseptically; the second and third were carried out under the carbolic spray, and antiseptic dressings were used. The patient recovered rapidly from the third operation, and left her bed sixteen days after the operation quite free from pain. The incisions in the abdomen in the second and third operations were made through the original wound.

20. *Hystero-Trachelorrhaphy*.—Dr. Mundé states that in the following conditions Emmet's operation is indicated. 1. Slight lacerations which, under friction against the vaginal wall, gradually produce the familiar muco-purulent tenacious plug projecting from the fissured os. 2. Slight lacerations, not ulcerated, but acting as chronic feeders of the sub-involution and hyperplasia which so stubbornly resist local medication. 3. Cases of hyperplasia or cystic ectropium of one lip, in which there is a raw ulcerated surface. 4. Cases of laceration of the endocervical mucous membrane, with comparatively slight injury to the border of the os, which, however, is patulous and funnel-shaped, often admitting the point of the index finger, and frequently everted and eroded. 5. Large granular and follicular erosions of the cervix are also best treated by Emmet's operation.

[Dr. Mundé states that "with, it would seem almost wilful neglect, all mention of the affection is omitted in the two latest books on gynecology, Barnes and Leblond." If Dr. Mundé had referred to page 873 of the second English edition of Barnes' *Diseases of Women*, he would have found Emmet's operation described and the notice of it concluded by the following words: "Emmet has successfully treated more than two hundred such cases, by paring the edges of the fissure and uniting them by silver sutures, so restoring the cervix to its normal shape. I can confirm the accuracy of Emmet's views. I have performed his operation with satisfactory results."—*Rep.*]

21. *Double Ovariectomy*.—Dr. Dobronravow removed both ovaries, the seats of cystic degeneration, at Moscow, Sept. 23, 1877. Two clamps were applied, one to each pedicle, and kept separated from one another outside the abdominal wound by a sponge placed between them. The sutures were removed on the eighth day. The left clamp became detached on the sixth day. The right clamp fell off on the eleventh day. The patient recovered.

22. *Double Ovariectomy*.—Dr. Pozzi removed both ovaries, the seats of myxoid epithelioma, Sept. 26, 1878. The pedicles were tied with catgut ligatures

and dropped back into the abdomen. A drainage tube was passed through the vagina and brought through the abdominal wound. The patient recovered.

23. *Ovariectomy and Hysterectomy at one sitting.*—Dr. Byford was consulted in the case of a young unmarried lady, aged 23, who was said to have an ovarian tumour. As the diagnosis was clear, and she strenuously objected to a vaginal examination being made, the operation for the removal of the cyst was commenced without a vaginal examination. The abdomen was incised and the cyst punctured in the usual way. After the cyst was nearly emptied, Dr. Byford noticed what he thought a second one behind it and plunged in the trocar. It felt harder than usual, and nothing escaped but blood. The incision in the abdomen was enlarged and the evacuated sac drawn out: it was then discovered that the second tumour was the pregnant uterus. As the puncture made by the trocar kept enlarging by the uterine contractions, it was thought best to empty the uterus. This was done through an incision made from near the fundus downwards, including the accidental aperture. A dead seven months' child was extracted. The uterine wound was closed with interrupted silk sutures, and an elastic catheter passed through the os uteri to allow of drainage. The os uteri was dilated for this purpose by two fingers. The ovarian pedicle was secured with plaited silk and returned into the abdominal cavity. The patient recovered rapidly and is ignorant of the fact that a foetus was extracted. Names, dates, and places are omitted to avoid the identification of the patient.

24. *Abdominal Pregnancy.*—Dr. Gaillard Thomas relates six cases of abdominal pregnancy. In two the foetus died early in gestation, discharged through the rectum, and the mothers recovered. In the third, laparotomy was performed at the end of the eleventh month of gestation, and the mother recovered. In the fourth, laparotomy was performed at the end of the seventeenth month, and the mother recovered. In the fifth, laparotomy was performed at the end of the twenty-second month, and the mother recovered. The sixth case, at the time of reporting was advanced to four months and a week, and was under observation. He arrives at the following conclusions: 1. Before full term, should the child developing in the peritoneal cavity be alive, its growth may be carefully watched, and the end of the ninth month be waited for in the hope of delivering at that time, either by laparotomy or elyototomy, a living child from a living mother. 2. Should the child have died early in pregnancy, delay in interference is advisable, but this should not be carried to the production of septicæmia or hectic. 3. Should the full term be passed, and the child be still imprisoned in its unnatural resting place, the rule should be to wait for evidences of constitutional disorder on the one hand, and to meet its development promptly and decisively on the other.

26. *Cæsarean Section.*—Dr. Harris draws the following among other conclusions from a study of 100 cases of Cæsarean section performed in the United States. The earlier the operation the better for the mother and child. Chloroform, by leading to uterine inertia and vomiting, is an unsafe anæsthetic. The best sulphuric ether is a safer anæsthetic than chloroform. In the days before the use of anæsthetics, the operation was safer than now, as there were no anæsthetic effects. To arrest uterine hæmorrhage and prevent its return, suture the uterus with silver

wire stitches. Septic poisoning is apt to originate in the decomposition of matters that have escaped from the uterus, even when in small quantity. Many women lose their lives through *post partum* uterine relaxation ending in hæmorrhage. To avoid this, operate very early and without anæsthesia. In all late cases suture the uterus with silver wire for safety. Where the uterine drainage is not good, leave the lower part of the abdominal wound open, and syringe out the abdominal cavity with dilute liquor sodæ chlorinatus 3ij to Oj, or bromo-chloralum, one in forty or fifty of warm water, daily. Never use catgut for uterine sutures; as the knots become untied, the wound opens, and patient dies. If the foetus is dead and putrid, sponge out the uterus carefully and put five or six sutures in it; this is safer than running the risk of secondary hæmorrhage or the escape of lochia into the peritoneal cavity; and two women, seven and ten days in labour, were thus saved in the United States, and are now alive and well.

27. *Nausea and Vomiting during the latter Months of Pregnancy.*—Dr. Richardson relates three cases in which nausea and vomiting returned during the latter months of pregnancy. The vomiting lasted all day, and was not more marked in the morning than any other times. In the first case, aged 23, primipara, the patient had been seized about seven weeks before her labour with an attack of obstinate vomiting which lasted nearly a week. The vomiting partially subsided, but again became so distressing that she was almost moribund. The urine was found to contain albumen and casts. She had a convulsion. Labour was induced, and the child, which had been dead several days, delivered by the forceps. The patient died half an hour later. The kidneys were found to be in a condition of acute parenchymatous inflammation. The second case was similar, and labour was induced. The patient recovered. The third case was also that of a primipara, aged 23. The vomiting lasted all day; the urine was found to contain albumen and casts. Induction of labour was suggested, but the patient's friends insisted on a consultation with a homœopathic physician, so Dr. Richardson withdrew from the case. He learned that ten days later she had convulsions, and died thirty-six hours after giving birth to a child which lived two days. Dr. Richardson remarks that in the above cases the only indication of acute renal disease was the recurrence of nausea and vomiting. He suggests the examination of the urine in all similar cases.

33. *Cases of Ovariectomy.*—Dr. Hemans relates twelve cases of ovariectomy, of which eleven recovered. He draws attention to the fact that of these, five which recovered were done antiseptically, in a hospital room opening from a large general ward. No particular guarantees were required from spectators. A case is also added in which an exploratory incision was made, and which recovered. These cases afford additional testimony to the value of antiseptic ovariectomy in general hospitals in abolishing the mortality which occurred before the use of the carbolic spray.

FANCOURT BARNES, M.D.

DISEASES OF CHILDREN.

RECENT PAPERS.

1. PARSONS. — Cota Bark in Diarrhoea of Children. (*Practitioner*, Jan. 1879. From *New York Medical Record*, Oct. 1878.)

2. MOIR, J.—Nature and Treatment of Croup. (*Edin. Med. Journ.*, Jan. 1879.)
3. HAYDEN.—Notes on the Treatment of Chorea. (*Dublin Journ. of Med. Science*, Jan. 1879.)
4. MONTI.—Use of Collodium Bandage in Hernia in Children. (*Allgemein. Centr. Zeit.*, 101.)
5. DEPAUL.—On a Special Malady of the Osseous System developed during Intra-uterine Life, and which is generally described under the name "Rickets". (*Revue des Sciences Méd.*, Jan. 1879.)
6. A Case of Rapid Syphilitic Ulceration in a Child of Fourteen Months Old. (*L'Union Médicale*, Jan. 7, 1879.)
7. ALBRECHT.—On the Feeding of Infants. (*Centr. Zeit. für Kinderheilkunde*, Jan. 1, 1879.)
8. HODGSON, G. F.—Two Cases of Intussusception of the Bowels in Infants. (*Brit. Med. Journ.*, Jan. 11, 1879.)
9. BLAKER, N. P.—Case of Intussusception in an Infant successfully treated by Distension of the Large Intestine with Thin Gruel under Chloroform. (*Ibid.*, Jan. 11, 1879.)
10. OWEN, EDMUND.—Inherited Syphilis. (*Ibid.*, Jan. 11, 1879.)
11. SANSOM.—The Diagnosis of Congenital Heart Disease in Children. (*Lancet*, Feb. 8, 1879.)
12. PARKER, R. W.—Remarks on a Case of Congenital Syphilis. (*Med. Times and Gaz.*, Feb. 8, 1879.)
13. BOUCHUT.—Treatment of Chronic Albuminuria in Children by Fuchsine, or Chlorhydrate of Rosaniline. (*Gaz. des Hôpitaux*, Jan. 21 and 23, 1879.)
14. BOUCHUT.—Review of Medical Ophthalmoscopy and Cerebroscopy for the year 1878, at the Hôpital Enfants Malades. (*Ibid.*, Jan. 4, 9, 11, 1879.)
15. UNRUH, O.—On Whooping-Cough in Dresden. (*Vierteljahrsschr. für die Praktische Heilkunde*, xxxvi, 1879.)
16. KOVATSCH.—On the Effect of the Extract of *Cassia Vesca* in Whooping-Cough. (*Betz's Memorab.*, xxiii, 12.)
17. SEEMAN.—On the Employment of Carbolic Acid in Whooping-Cough. (*St. Petersburg Medicin. Wochenschr.*, Jan. 6, 1879.)
18. OPPENHEIMER, Z.—On the Etiology of Spasm of the Glottis. (*Deutsche Archiv f. Klin. Med.*, xxi, 5, 6.)
19. LEE, R. J.—On the Influence of Whooping-Cough as one of the Chief Causes of Infant Mortality. (*Brit. Med. Journ.*, March 1, 1879.)
20. DAY.—On Chronic Chorea treated by Hypodermic Injection of Curare, and afterwards with Sulphate of Zinc. (*Lancet*, Feb. 22, 1879.)
21. MÜNCH.—On the Epiphyseal Changes in Hereditary Syphilis. (*Cent. Zeitung für Kinderheilk.*, Jan. 1, 1879.)
22. SCHÖTZ, E.—On the Anatomy of Infantile Syphilis. (*Ibid.*, Jan. 1, 1879.)
23. GOLDSCHMIDT, S.—On the Simultaneous Occurrence of Cases of Scarlatina and Diphtheria. (*Ibid.*, Jan. 1, 1879.)
24. SIMON, JULES.—Prognosis in Infantile Paralysis. (*Gaz. Méd. de Paris*, Jan. 11, 1879.)
25. GLAISTER, J.—Case of Icterus Neonatorum due to Congenital Stricture of the Ductus Communis Choledochus. (*Lancet*, March 1 and 8, 1879.)
26. DESSAN.—On Pleurisy in Children. (*Revue Méd. Franç.*, Jan. 11, 1879.)
27. EULENBURG.—On the Tendon Reflex in Children. (*Deutsche Zeitschrift f. Prakt. Med.*, 1878, 31.)
28. BESNIER, JULES.—Case of a Child born with Teeth. Coryza and Consecutive Ulceration of the Tongue. (*L'Union Méd.*, p. 451, 1879.)
29. BROWN, G.—On Ulceration of the Frænum Lingue. (*Brit. Med. Journ.*, March 22, 1879.)
30. WILTSHIRE, A.—A Case of Enteric Fever in a Child Six Months Old. (*Ibid.*, March 22, 1879.)
31. BARLOW, J.—On Disease of the Skull in Congenital Syphilis. (Report of Pathological Society's Transactions in *Brit. Med. Journ.*, March 22, 1879.)
32. COTTIN.—On Renal Hemorrhage in a Child which died with Eclampsia. (*Gaz. des Hôpitaux*, p. 219, 1879.)

1. *Cota Bark in Diarrhœa of Children.*—Dr. Parsons speaks highly of the use of cota bark in infantile diarrhœa. He uses the compressed pill for adults, and the elixir for children, in doses from six to twelve drops every one to three hours. In one case, the shortest, three doses were given; the longest time for which the drug was used being seven days. The *Quina cota* is a tree growing in Bolivia; it has several varieties. Cotoin is the alkaloid contained in the bark; it is difficult to isolate, and is a resinous substance. Its action is said to be tonic and specific (without narcotism) in the treatment of acute and chronic diarrhœa.

2. *Nature and Treatment of Croup.*—In this paper, which is a continuation of one in the *Edinburgh Medical Journal* for December 1878, the author discusses the causes of croup—which he holds to be a disease essentially different from diphtheria—in its clinical, pathological, and therapeutical aspects. It is an inflammatory affection of the trachea and larynx, with the formation of a false membrane, distinct from other diseases apparently, but not really, identical, especially so from diphtheria. Although the diagnosis is by no means easy, and the two affections are frequently combined, croup is peculiarly a disease of infancy from two years old to ten. It is essentially a sporadic affection arising from damp. The author proceeds to give the symptomatology of croup, and discusses its complications and terminations. This part of the paper is carefully written, clearly from observation of cases, but does not add anything to the vexed question of the identity of the two sets of symptoms called croup and diphtheria.

3. *On the Treatment of Chorea.*—The author of this paper believes that none of the modern theories, implying a special organic lesion as the exciting cause of chorea, will bear scrutiny. Certainly, he says, the embolic and thrombotic theories propounded by Kirkes and Hughlings Jackson, will not pass unscathed through the light of an extended hospital experience. The attack in most instances is directly traceable to fright or other emotional excitement of a depressing character operating upon a nervous and feeble constitution, and at a period of life when the receptive faculties are most sensitive. The theory is suggested that the attack commences with vasomotor paresis, resulting from a profound emotional impression, and that the essential symptoms are due to defective polarity, or dynamic instability of the motor nerve tracts, both intracranial and spinal. On this hypothesis, the vascular congestion, central and peripheral, of the brain and cord, with occasional extravasation, and, in inveterate cases, cerebral sclerosis, noted by Dickinson, might be explained. The treatment of this disease with phosphorus and strychnia is strongly recommended, and a case quoted which, after resisting all treatment, and presenting the gravest symptoms, got well in fourteen days under the use of five minims of "ethereal tincture of phosphorus", and three minims of liq. strych. every three hours.

5. *On a Malady of the Osseous System.*—The main points of M. Depaul's paper are as follow. 1. The alterations which the bony skeleton can undergo during intrauterine life have very different origins. 2. Those which are generally described as congenital rickets do not seem to have the same origin as those which characterise rickets developed after birth. 3. The form and direction of the curvatures, the internal structure of the bones, etc., unite in establishing a well-marked line of demarcation.

4. While in the malady developed during foetal life everything is explained by the absence or the irregularity of the deposit of calcareous matter, in true rickets the morbid state attacks bones already formed to a great extent, deranges the regular progress of their development, and submits them to a softening process, which may be deemed the chief cause of the subsequent deformities. 5. Moral emotions on the part of the mother and imagination have no direct influence on these faults of formation of which we are treating. 6. Nor can we assign them to lesions of the nervous centres, and to the muscular retractions which could result therefrom; although a large number of bony deformities seem certainly to have some such origin. 7. The health of the mother has nothing to do with the development of these symptoms; in no case has there been established the existence of syphilis, rickets, or scrofula. 8. It should be remarked that, in many cases, this malady was manifested in *twin pregnancies*, and this peculiarity has, probably, something to do with its causation. 9. The facts which have been given as examples of congenital fracture have been wrongly interpreted. These are but a variety of one and the same lesion, viz., the absence complete, but limited in extent, of the deposit of the calcareous matter; which, on the other hand, can take place in excess at certain points, and form those enlargements which have wrongly been given as a proof of a process of consolidation. 10. These alterations of the skeleton are far more frequent than is generally believed. 11. Their gravity consists, not only in the changes brought about in the conformation of the limbs, but also, in their hindering, by deforming the chest, the mechanism of respiration, and in depriving the brain of sufficient protection against external lesions.

7. *On the Feeding of Infants.*—Dr. Albrecht of Bern concludes an interesting paper on this subject with the following *dicta* on the most suitable kinds of food in earliest infancy. 1. The best food for the new-born infant is the mother's milk exclusively. 2. If this cannot be obtained, the milk of a wet nurse. 3. From the sixth month onwards some additional food may be advisable, or even necessary. 4. In cases when woman's milk cannot be had, the milk of animals is to be given; cow's milk is generally understood by this. 5. Additions are to be made to cow's milk in a manner corresponding to the age and requirements of the child. 6. Such additions consist of dilutions with boiled water, or of some mucilaginous material, sugar, or an alkali; the admixture of barley water is preferable to all others. 7. When no good animal milk can be obtained, give condensed milk; this may be mixed with thin barley water. 8. Before the end of the third month, the salivary glands of the child insufficiently change starch into dextrine and grape sugar, and, therefore, no "children's food" or other starch-containing nourishment should be given before this age. 9. After this time there is no theoretical or practical objection to such food; but it should, nevertheless, not be given exclusively. 10. Every mode of feeding infants is to be regulated by the use of the weighing machine.

9. *Case of Intussusception in an Infant.*—The chief points to be noted in the report of this interesting case are, as the author points out, the early employment of the injection before the invagination had extended far, and the probable effects of the chloroform in preventing muscular spasm and keeping the child perfectly still. Besides this, it is to be re-

marked that, contrary to the usual meddling custom in such cases, no purgative medicine, but opium instead, was given before operation.

10. *Inherited Syphilis.*—In this paper, Mr. Owen records a case of a girl, 5 years old, who came under treatment for a firm, dusky, and ulcerated swelling of the size of a Tangerine orange in the left groin. It was not painful, but had for some time been discharging a clear watery fluid. After some weeks, a further examination showed a recent and deep ulceration occupying the right tonsil, and extending through the soft palate to the back of the pharynx; there was, also, interstitial keratitis of each eye. When six months old, the child had suffered from snuffles and sores about the anus. She had been deaf in both ears for several months. After six weeks' medication with three-grain doses of iodide of potassium three times daily, the throat was well and the gumma in the groin had dried up and entirely disappeared. For a year the child had continued well; then the throat became as bad as ever, the soft palate on each side of the perforation and both tonsils being quickly and deeply ulcerated. There was also a well-marked keratitis of the right eye; the left showed no trace of the previous attack. The hearing had not improved. There was well-marked thickening of the upper epiphysal cartilage of each tibia and each ulna. Patient again steadily improved on four-grain doses of iodide. She was the eldest of four children, in whom no trace of taint was discovered; nor had the mother apparently been affected.

11. *Diagnosis of Congenital Disease of the Heart in Children.*—In a paper read before the Medical Society of London, Dr. Sansom classified congenital cases of heart-disease as follows: 1. Cases of cardiac anomaly presenting no murmurs; 2. Those with murmur not referable to the pulmonary artery; 3. Congenital anomaly with pulmonary murmur; 4. Complications with endocarditis. Cyanosis for the most part characterises these cases, but in some there may be no blueness, but pronounced anæmia. In cases of pulmonary stenosis in children, it was pointed out that a systolic murmur generated in the pulmonary artery may, nevertheless, not be localised in the pulmonary area; it may be conducted to the right side and up the vessels. The explanation is, that the pulmonary murmur is supplemented and reinforced by hæmic murmurs generated in the aorta and large arteries. Anæmic murmurs are not uncommon in children, but are particularly prone to affect those with malformation of the pulmonary artery. In some cases, a loud venous hum is also manifest. The existence of cardiac anomaly predisposes to endocarditis with the occurrence of valvular imperfections; but the diagnosis of lesions thus induced from those of rheumatic causation is very difficult. Rheumatic endocarditis in children may arise and progress very insidiously. In conclusion, the following propositions were laid down. 1. In cases of congenital cyanosis with no cardiac murmur, there is, probably, a patent foramen ovale. 2. In cyanosis with murmur, varying in intervals, heard over the sternal ends of the third and fourth costal cartilages and intercostal space, there is probably the same lesion. 3. In cyanosis with loud murmur, unvarying and systolic, with maximum intensity internal to the position of the apex-beat, but heard also at the back between the scapulae, there is probably imperfection of the ventricular septum. 4. In cyanosis and marked *anæmia* in children who have a pronounced, superficial, systolic murmur at

the base of the heart, there is probably constriction of the pulmonary artery or its orifice. Such murmur may be complicated by hæmic murmurs. 5. In cases of congenital affection of the heart, with considerable dilatation of the left chambers, it is probable that endocarditis affecting the valves has constituted a complication.

12. *Case of Congenital Syphilis.*—The case here reported was one of syphilitic pemphigus affecting the palms and soles, with bullous inflammation of the finger-nail beds. Besides these symptoms, the point of chief interest was the presence of two "gum-boils" the size of large peas, corresponding with the places for the two upper central incisors; the rest of the gums being red and inflamed. On the lancing of one of these "gum-boils" a milk tooth dropped out. Similar suppuration of dental sacs took place during the course of the case over the position of the molar teeth. Mr. Parker considers that there was a parallelism between this suppuration in the dental sacs and the condition of the nail-beds; in both cases the affection not being connected with epidermal structures, but rather with those derived from the middle embryonic layer. Mr. J. Hutchinson, who saw the case, pointed out that the stomatitis had come on too late to interfere with the development of the milk teeth, but that it would probably interfere with that of the permanent teeth, now in a very rudimentary stage.

13. *Treatment of Chronic Albuminuria in Children.*—After giving several illustrative cases, M. Bouchut sums up as follows. In all cases the albuminuria has rapidly diminished, and has disappeared in a longer or shorter time. The duration of treatment has been from one to six months, and the dose of the remedy has varied from 10 to 20, or 25 centigrammes daily. Milk diet was prescribed with the drug, and, in some cases, some white meats. Several cases had daily sweats, produced for a longer or shorter time, by being enveloped for two hours under a covering of wool impregnated with benzoin vapour. The urine in these cases assumed a more or less pronounced rose colour, due to the passage of the drug through the kidneys. The lips and tongue were coloured red. The appetite was not affected, nor were there any digestive troubles. In one case there was vomiting, lasting only twenty-four hours, which did not reappear on the readministration of the drug. It may be said that fuchsin is a very harmless medicine.

16. *On Castanea Vesca in Whooping-Cough.*—This paper by Kovatsch or Laibach relates the treatment of several cases of whooping-cough with the extract of *castanea vesca*, a drug which was brought into notice recently by the late Dr. Fleischmann of Vienna, whose conclusions the author gives as follows. The drug can be given with the greatest good effect: 1. When, within the first eight days the number of daily paroxysms does not increase, or does not exceed twenty. 2. In cases of uncomplicated whooping-cough, and where the spasmodic attacks are well marked. 3. When the catarrhal symptoms are moderate. 4. In anæmic flabby individuals who are free from the scrofulous diathesis. There is nothing to expect on the other hand from this drug: 1. When the attacks exceed twenty in the twenty-four hours in the first eight days after the administration of the drug. 2. In case of profuse catarrh of the bronchi, complications of capillary bronchitis, with bronchopneumonia and extensive collapse of lung. 3. In cases of enlargement of the glands in the anterior mediastinum and of the bronchial glands when such en-

largement can be detected by examination. The results obtained by the author are summed up as follows. 1. The extract is of no use given in the first stage of whooping-cough, when the characteristic paroxysms have not developed. It does not prevent the development of the second stage, nor hinder the bronchial inflammation, nor lessen the fever. 2. In the second stage of the disease, when the paroxysms are well marked, but there are no complications; when the fever is moderate, and there is only bronchial catarrh, not pneumonia, capillary bronchitis or tuberculosis, the extract often brings about a rapid diminution in the number of daily paroxysms, but it must be given for at least a fortnight for the effect to be obvious. 3. When, after a week or a fortnight's exhibition of the extract the attacks sink to about two or three in the day, but the night attacks remain constant, then it is well to continue the drug. 4. When there is no dangerous complication, besides a considerable degree of bronchial catarrh; or, in the third stage, when there is always more or less of this affection, it is well to give the extract with some expectorant, such as ipecacuanha or senega.

17. *Carbolic Acid in Whooping-Cough.*—The use of carbolic acid inhalations is recommended strongly by Dr. Seeman; and in order that the inhalation may have the best effect, he advises that it should be administered during sleep, as it is difficult to ensure that a child should inhale sufficiently long or enough of the medicament while awake. Woollen material, saturated with a 5 per cent. solution of the acid, should be hung round the head of the bed. In this paper the spasm of the glottis is attributed to an excitation of the centripetal fibres of the vagus, which is caused by the pressure of the distended vein in the jugular foramen, with giving way of the intrajugular ligament, as a sequela of rickets. On the ground of this hypothesis, Oppenheimer proposes the name *Asthma Rhachiticum*. The occasional occurrence of even fatal convulsions in spasm of the glottis, the author ascribes to excitation of the medulla oblongata by the overloading of the blood with carbonic acid during the stage of apnoea.

20. The case of chorea related in Dr. Day's paper is interesting, though only as giving a good example of the varying character of the heart affection, which is so commonly to be noted in this disease. Thus, in one of the several attacks of this patient, a girl of about 14, the heart-sounds were said to be normal on October 18, 1875. On November 5, the heart's action was occasionally irregular and intermittent. On December 14th, choreic movements having disappeared, the first sound of the heart was a little blowing and prolonged over the apex. On January 11, 1878, during another attack, the heart's sounds were stated to be healthy. On October 2, 1878 (a fresh attack), the heart's action is stated to be excited, with a soft, rather prolonged, systolic sound over the apex. The history concludes with the approximate recovery of the patient on November 9: no further note being given of the heart-sounds. Rheumatism does not enter into the previous history of this case. With regard to the treatment, which is brought into prominence in the report, it can only be said that the known clinical characters of the disease in question quite preclude even plausibility in attributing the recovery to any of the drugs used.

21 and 22. The pathological results obtained from the *post mortem* observation in the cases referred to in these papers point to disease of the coats of the arteries as probably the primary fact to be noticed. In Schutz's case, which was a seven months' child,

dead soon after birth, there were numerous blood extravasations, and the microscopical examination of the small arteries of the skin, especially in the neighbourhood of the hæmorrhages, showed hypertrophy of the muscular coat, and great thickening of the adventitia, which consisted of concentric rings. The intima was normal. The same changes were seen in the small renal vessels, though the thickening of the muscularis was more marked.

24. *Prognosis in Infantile Paralysis.*—In a clinical lecture delivered by the author at the Hospital for Sick Children, the following points regarding prognosis are worthy of notice. Generally speaking this disease leaves behind it a greater or less degree of paralysis. In a well-marked case, which has lasted four or five weeks, the cure will never be complete. But this persistent paralysis should not justify us in always giving a grave prognosis. For, though it may be always apparent to the skilled observer, the paralysis may disappear sufficiently to escape the notice of all others, and in other cases it may be remedied by orthopædic apparatus. M. Simon considers that there are three periods in the malady, in which the prognosis may be given in different terms. Quite at the outset, it being impossible to foresee the result, prognosis must be guarded and general. Time is the main element in prognosis now. In the second period, more precision is possible in prognosis. If the paralysis tends rapidly to improve, the prognosis is very serious; but if it persists and spreads, there is a fear of muscular atrophy, fatty degeneration, and consecutive deformity. If the paralysis is soon accompanied by atrophy, *i.e.*, in from ten or fifteen days to three weeks, cure is impossible, and grave deformity will remain; but if the atrophy comes on slowly, the disease will, at least to a great extent, get well. In other cases, we are in presence of the accomplished fact. The patient is seen in the stage of deformity of infantile paralysis; there is atrophy and shortening of the limbs or club-foot. But even in these cases much may be done to justify a not altogether unfavourable prognosis by the judicious use of orthopædic apparatus. The etiology of infantile paralysis is very obscure. It is rarely seen before the age of six months, or after three years. M. Simon has seen cases which began at the ages of 4, 7, 7½, and even 12 years—but these are exceptional. Sex appears to have no influence. The occurrence of dentition and diarrhoea have been credited with it; lastly, *cold*, and especially staying in a damp place, have appeared to M. Simon to have been the cause in some cases he has seen, so that there would seem to be a rheumatic infantile paralysis.

In 214 children under one year old, among whom 41 were within a month, and 17 within a day old, these last evinced the patellar tendon reflex very markedly. The Achilles tendon reflex was not fully brought out in all the cases of children within one year old; but the patellar reflex was marked in nearly all. The author thinks that this phenomenon is a reflex one, for the distinctness of the symptom decreased with advancing age; although, according to Soltmann, the excitability of the peripheral nervous system gradually increases. This increased excitability is compensated for by the decreased tendency to reflex phenomena.

32. *On Renal Hæmorrhage in a Child.*—This case was brought by M. Cottin before the Anatomical Society in Paris. The child, aged 3½ years, died with eclampsia, the attacks of which had lasted five days, and were very violent and almost continuous.

At the autopsy, there was proved to be a hæmorrhage in the right kidney at its lower end, presenting the form of a clearly limited apoplectic focus. It was about the size of a large nut, and occupied both parts of the kidney, but especially the cortical. In the centre, the section of a considerable-sized vessel was seen whose lumen was completely blocked by a fibrinous plug. The presence of the vessel (the seat of the thrombosis), exactly in the centre of the apoplectic focus, clearly indicates the point of origin and the mechanism of the hæmorrhage. The rest of the kidney, as also the corresponding organ, was perfectly normal. HORATIO DONKIN, M.B.

PHYSIOLOGY.

RECENT PAPERS.

1. BUCKE.—The Moral Nature and the Great Sympathetic. (*Canada Lancet*, Nov. 1, 1878.)
2. BUFALINI, G.—Action of the Bile on the Glycogen of the Liver. (Abstract in the *Brit. Med. Journ.*, Feb. 22, 1879.)
3. CAVAZZANI, GUIDO.—On the Action of Quinine, with especial reference to its Influence on the Circulation. (*Ann. Univers. di Med. e Chirurg.*, Milano, Dec. 1878.)
4. COLIN.—On the Effects resulting from the Injection of Septic Materials. (*Acad. de Méd. Séance du Nov. 12, 1878.*)
5. COLIN.—On the Causes of Death from Malignant Pustule. (*Ibid.*, Dec. 10, 1878.)
6. DIETL and VINTSCHOUAU.—Variations in the Time of Physiological Reaction under the Influence of Wine, Coffee, and Morphia. (*Arch. f. ges. Physiol.*, xvi.)
7. ENGELMANN.—On the Electrical Condition of the Heart during Action. (*Pflüger's Archiv*, xvii.)
8. FRANCK, FRANÇOIS.—On the Heart. (*Acad. de Méd. Séance du Dec. 2, 1878.*)
9. GUTTMANN, PAUL.—The Physiological Action of Peroxide of Hydrogen. (Abstract in *Med. Times and Gaz.*, Nov. 16th, 1878.)
10. HURD, E. P.—The Physiology of Sleep. (*Boston Med. and Surg. Journ.*, Dec. 26, 1878.)
11. JÖNICKÉ, A.—Investigations into the Secretions of the Parotid Gland. (*Pflüger's Archiv*, xvii.)
12. JOLYET, F.—New Facts in Relation to the Vagus, showing that the Primary Filaments before they have formed any Anastomoses possess a peculiar Motor Function for the Esophagus and Stomach in the Dog. (*Gaz. Méd. de Paris*, Feb. 8, 1879.)
13. KONIGSHOFER, O.—Jaborandi and Pilocarpin in reference to its Effects upon the Eye. (Abstract in *St. Louis Med. and Surg. Journ.*, Nov. 1878.)
14. LUCHSINGER.—Contribution to the Functions of the Spinal Cord. (*Pflüger's Archiv*, xvi.)
15. STRICKER and WAGNER.—On the Origin and Function of the Accelerator Nerves of the Heart. (*Medizin. Jahrb.*, Heft 3, 1878.)
16. WOAKES.—The Physiology of Labyrinthine Vertigo. (*The Doctor*, Sept. 1, 1878; abstract in *Chicago Med. Journ. and Exam.*, Nov. 1878.)
17. ZUNTZ.—A Study on the Effects of Respiration upon the Circulation. (*Archiv f. ges. Physiol.*, xvii, p. 374.)

1. *On the Moral Nature and the Great Sympathetic.*—The great sympathetic is a nerve of motion to unstriped muscular fibres, except to the circular fibres of the iris which are supplied by the third cranial nerve. It is not a sensory nerve. It can and does exercise a controlling influence over the secretion of glands, which receive no other nerves,

such as the kidneys. It is probable that, as it is at least equally distributed to other glands which receive cerebro-spinal nerves, and no other function appears for it to perform, it influences also the secretory functions. Thus it is shown that the testes are supplied with cerebro-spinal nerves, whilst the homologous organs in the female are not. That cerebro-spinal nerves, when sent to glands, have another obvious function to perform besides that of controlling the secretions of those glands, and that it is consequently unnecessary to suppose that they do this likewise. In support of the belief that the sympathetic influences the general nutrition of the body, Dr. Bucke thus argues, "The nutrition of paralysed limbs, though not up to par on account of want of exercise, is still pretty well kept up; whilst, if those limbs could be deprived of sympathetic nervous influences, instead of cerebro-spinal influence, we have reason to believe that their nutrition would fail absolutely, and that they would die. All arteries are accompanied by sympathetic nerves, besides which, there are without any doubt, as was pointed out by Davey in his work on the great sympathetic, hundreds of minute ganglia scattered amongst the tissues and organs of the body, which send filaments to parts in the neighbourhood of each of them, so that the distribution of the great sympathetic nerve is probably absolutely universal, while the distribution of the cerebro-spinal system is far from being so." Dr. Bucke also discusses the question as to whether the sympathetic is the nervous centre of the moral nature, that is, of the emotions.

2. Action of the Bile on the Glycogen in the Liver.

—In a recent number of *Lo Sperimentale*, Dr. G. Bufalini gives the results of some experiments made by him for the purpose of determining the action of bile on the hepatic glycogen. He says that there has been much controversy on the question whether bile is capable of transforming starch into glucose. The experiments, however, of Wittich, Gianuzzi, and Bufalini himself, have answered this question in the affirmative. Wittich collected the bile in a case of fistula of the gall-bladder, and rapidly obtained through its use the transformation of starch into glucose. The special object of Dr. Bufalini's recent experiments has been to ascertain whether bile exercises any transforming influence on the hepatic glycogen. For this purpose, he has made a number of experiments, using the bile of various animals (oxen and cows), removed from the gall-bladder about two hours after death. The glycogen was prepared by Kühne's process, and both were tested for glucose by Trommer's test. Regarding the action of bile on the hepatic glycogen, he finds that bile removed from the gall-bladder of animals killed a short time previously, and placed in contact with glycogen at a temperature of 104 deg. Fahr., reduced it to the state of glucose in a longer or shorter time. Of 150 experiments, the time required for the change was, in 50 cases one hour, in 50 other cases two hours, and, in the remaining experiments, from two and a half to three hours. When bile is deprived of its mucus and colouring matter by means of animal charcoal, and slightly acidulated with acetic acid, it retains its property of transforming glycogen, but the time required is longer, and the transformation is less complete. He explains this by saying that a portion of the ferment is carried away with the mucus. Another series of experiments made by Dr. Gianuzzi and himself have led him to the conclusion that bile in a state of putrefaction does not retain the property of transforming either starch or gly-

cogen; no effect being produced at the end of twenty-four hours. He also found the transforming property destroyed in bile which was boiled, filtered, and cooled, and then mixed with glycogen at a temperature of 104 deg. Fahr. The biliary salts and acids also had no action on hepatic glycogen.

3. *On the Action of Quinine.*—The action of quinine upon the circulation has been carefully investigated by Dr. Guido Cavazzani, who finds that in the frog, small, as well as large, doses of sulphate of quinine when brought into contact with tissues which have been deprived of their epidermis, occasion a slowing of the heart-beat. The action of quinine upon the heart is not very marked, but, if it is contracting very rapidly, the muscle becomes pale, the cavity is completely emptied, the heart remains contracted in systole. The ventricular diastole occurs slowly, so that the auricles impel but little blood. Quinine causes great constriction of the arterial and venous capillaries, the constriction bearing a definite relation to the amount injected. The circulation of the blood-corpuscles is hindered in many of the capillaries, but the author has been unable to decide whether the circulation of the plasma likewise ceases. In moderate doses, quinine may accelerate the peripheral circulation, whilst in larger quantities it impedes, by reason of its constricting action upon the terminal vessels. Quinine has a paralyzing influence upon the respiration. From these observations it may be deduced, *à priori*, that quinine in considerable doses is of use to stimulate the peripheral circulation by limiting the vascular area. In energetic doses it is useful in phlogosis by modifying vasomotor paresis.

4. *The Injection of Septic Materials.*—M. Colin communicates the results of his investigations upon the various effects produced by septic materials according to the degree of alteration which they have undergone. In the first place, a large dose causes a rapid intoxication, which is sometimes sudden and crushing, but is always fatal. This intoxication occurs without marked change in the blood, except that there is a slight disinclination to coagulate; there is, however, no reproduction of the protozoa. In this case, also, no toxic properties are exhibited by the blood or other fluids of the organism. Secondly, when administered in a small dose, they produce a condition of adynamic fever, which increases or wanes according to the constitution of the animal infected. In fatal cases, death is due to visceral lesions, and to alterations in the blood, as has been shown by several observers. Reproduction of the protozoa occurs at least in those places where the putrilage has been injected, and, occasionally, also, in the whole mass of the blood itself. Thirdly, certain putrescent substances which have not already advanced too far into a state of decomposition, possess the power of causing septicæmia even when they are present in extremely small quantities. Septicæmia so caused can be propagated by inoculation, like many infectious diseases. In this case, the fluids of the body are always virulent, and there occurs a reproduction of the protozoa which are introduced by the substances from without. These results, as if they were specific, can, however, only be obtained with certain animals.

5. *On the Causes of Death from Malignant Pus-tule.*—M. Colin made a report as to the causes of death from malignant pustule. He commences by refuting the various hypotheses which have been already framed in regard to this subject. Thus, the cause of death has been stated to be due to mecha-

nical obstruction of the circulation, brought about by the bacteria. The choking of the several viscera in the disease of malignant pustule is not, however, to be regarded as a proof that the circulation is impeded, for it occurs to a large extent in some diseases without causing any impediment to the blood flow. Microscopic examination, again, made under favourable conditions, shows that there is no such impediment to the circulation, for the red blood-corpuscles circulate normally, whilst the bacteria move with the utmost freedom. Lastly, there are animals, such as the horse, in which malignant pustule is not accompanied by any large development of bacteria. Death has also been stated to be due to asphyxia caused by absorption of oxygen, and elimination of carbonic acid by the bacteria. The commencement of asphyxia has been observed, but it has never proceeded to any great extent. This incomplete oxygenation has been noticed also in those forms of malignant pustule with ganglionic lesions, in which there were but few bacteria. It has been likewise seen in cases of septicæmia in which the vibrio does not absorb oxygen and eliminate carbonic acid. Lastly, this condition of asphyxia is only developed very gradually. Death has been falsely attributed to a diminution of temperature. The fall of temperature, however, as ordinarily observed, is insufficient to cause death; whilst the lowering of temperature in animals attacked with malignant pustule bears no relation to the number of bacteria. After thus disposing of the various hypotheses, M. Colin proceeds to state that death is to be attributed to an alteration in the blood, which renders it unfit to support the life of cells, or other mechanical elements. He does not, however, specify in what this change consists; though it is, apparently, one which is common to a large number of diseases.

6. *Variations in the Time of Physiological Reaction.*—The skin of the third phalanx of the right middle finger was stimulated by means of a pointed instrument; the moment of stimulation, as well as that of reaction, being automatically registered. The interval between the two is the physiological reaction period. The sense of touch was preferably experimented with, because it is not so liable to fatigue as the sight, hearing, or taste. The authors determined, in the first place, the influence of certain physiological states upon the reaction period for purposes of comparison. The reaction period is shorter in winter than in spring, and is markedly prolonged on very warm days. All emotions increase its duration; purely bodily stimuli shorten it; intellectual efforts also diminish it. The action of morphia in subcutaneous injections is to cause a great prolongation of the reaction period. The effect is, however, only temporary. Coffee shortens the reaction period in a very remarkable way. Its effect is most marked about twenty-five minutes after ingestion, and is persistent for a considerable time. Very irregular results were obtained with wine. A small quantity generally shortened the reaction period for a long time, whilst a larger amount had an opposite effect. The results, therefore, confirm facts in regard to these substances which have long been known.

7. *On the Electrical Condition of the Heart.*—Engelmann's experiments were made upon the apex of the frog's heart. The heart was placed in a moist chamber. Feeble induction currents on making the circuit were employed as the stimuli; Bernstein's rheotome was generally used. The electric state of

the heart was determined by means of a sensitive galvanometer, which responded with great rapidity to the impulses. The stimulus starts under normal conditions from the base of the ventricle. Each part shows a negative variation, which is propagated in all directions from the point of stimulation. It commences at the instant of excitation, and increases in such a way as to confirm the statement that the systole of the heart is a simple contraction, and is not a tetanus; it diminishes more gradually than the contraction itself. The electro-motor force of oscillation depends upon the condition of the heart-muscle, and not upon the intensity of the stimulus which causes the contraction. The heart cannot be thrown into a state of true tetanus. Lastly, Engelmann has attempted to measure the rapidity with which the wave of excitation travels in the heart, but he finds that it varies at different periods of the experiment.

8. *On the Heart.*—M. François Franck reports the results which he has obtained in regard to the cardiac and respiratory effects produced by the irritation of certain sensory nerves of the heart, and the cardiac effects resulting from the stimulation of the sensory nerves of the respiratory organs. After the injection of an irritating fluid into the cavity of the right heart in a mammal, stoppage of the heart in diastole was produced by reflex action. This effect was also produced after section of the vagi. Injection of the fluid into the left ventricle, on the other hand, caused a stoppage of the heart during the systole; for, in this case, the stimulus acts directly upon the cardiac muscle. The same effects are produced when the irritating substance is injected into the heart of animals which possess but a single ventricle. In mammals, the injection of an irritating solution into the right ventricle causes simultaneous disturbance of the respiration and arrest or slowing of the action of the heart. This disturbance of the respiration frequently assumes the form of entire cessation or of slowing. In this case, as before, the effect is a reflex action caused by stimulation of the endocardium. The action of the fluid upon the sensitive nervous apparatus of the lung may be eliminated, since the reflex stoppage of the respiration occurs before the blood which carries the irritant fluid has been able to leave the heart and penetrate the pulmonary vessels; this experiment can be readily performed by injecting the solution into the right ventricle during the prolonged diastolic pause. Certain sensory cardiac nerves connect the internal surface of the heart with the motor organs of respiration. These, the suspensory cardiac nerves of respiration, are situated in the vagus nerves, since the respiratory effect disappears after section of these nerves below their superior anastomoses. These physiological relations between the sensory surface of the heart and the motor organs of respiration, are reciprocated by the relation which exists between the sensory surface of the respiratory organs and the muscular apparatus of the heart. In short, as reflex stoppage of the respiration is caused by irritation of the endocardium, so reflex stoppage, or slowing of the heart, is brought about by laryngeal, or intra-pulmonary stimuli.

9. *The Physiological Action of Peroxide of Hydrogen.*—Dr. Paul Guttman of Berlin has repeated the experiments of Assmuth and Schmidt on animals with a solution of peroxide of hydrogen of 1006 specific gravity. This solution has long been used for bleaching purposes in this country, and is very permanent. The injection of four cubic centimetres under a rabbit's skin immediately caused severe dys-

pnœa, clonic convulsions, and death followed in a few minutes from asphyxia. The cause of the asphyxia, which Dr. Guttman has been the first to explain, is the development of innumerable bubbles of gas in the right auricle and ventricle, so that the blood froths just as if air had entered by the veins. Microscopic examination of the pulmonary circulation in urarised dogs injected with the peroxide, showed that the bubbles of oxygen due to the decomposition of the peroxide never penetrated the branches of the pulmonary artery. Dr. Guttman has found that if he injects one syringe-ful or three-quarters of a cubic centimetre of peroxide solution into one side of a rabbit's abdomen, and two syringe-fuls of a 20 per cent. solution of ferrous sulphate simultaneously into the other, the animal does not die, though three-quarters of a cubic centimetre is the lowest fatal dose. Hence, he concludes, that at least part of the oxygen liberated from the peroxide combines with the sulphate, and that the remainder is insufficient to obstruct the circulation and cause asphyxia, for, under ordinary circumstances, while three-quarters of a cubic centimetre kills, one-half of a cubic centimetre does not. Dr. Guttman has, like Thénard and Schönbein, observed the powerful antiseptic action of the peroxide. Ten cubic centimetres of urine mixed with one cubic centimetre remained nine months without putrefying. To this action is probably due the good effect of the peroxide on soft chancres noticed by Stöhr in 1867, and confirmed by Guttman. Guttman has, also, tried the peroxide in chronic dyspepsia (ten grammes to 200 of water—dose, half an ounce three times daily), and with good results. Dr. Richardson, it may be remembered, in 1862 published a number of observations on the subject, in which improvement of the digestion was one of the main features. In the discussion on Dr. Guttman's paper at the Berlin Medical Society, Dr. Fränkel stated that he had found the peroxide solution rather weaker antiseptically than carbolic acid. He had used it with benefit as a mouth-wash in a case of fœtor oris. Guttman's experiments have been repeated with similar results by Dr. E. Schwerin (Virchow's *Archiv*, lxxiii, 37). Slight divergencies of opinion between their results, and, generally speaking, between those of other observers on the same subject, seem all explicable by the solutions used not being of uniform strength.

10. *The Physiology of Sleep.*—Vulpian, after investigating the rôle of the sympathetic in various functional nervous diseases, where too important a part seems to have been assigned to the vaso-motor fibres of the brain and spinal cord, reflex paralysis, hysteria, tetanus, hydrophobia, and epilepsy, considers the physiology of sleep and the theory of cerebral anæmia. He allows that in ordinary sleep less blood circulates in the cerebral centres than when awake; but he supposes that this relative anæmia is rather the concomitant, or result, than the cause of the suspension of cerebral activity. During the first moments of sleep, he believes that there is a more or less marked degree of encephalic congestion, analogous to the congestion of the face, and of the conjunctivæ, which is observed at the same time. But in all probability, the aspiration soon becoming calmer, more regular, a little less frequent, the movements of the heart being at the same time a little slower and less energetic, the cerebral circulation must undergo a like modification, and the congestion of the onset will give place to a slight degree of relative anæmia. Among the objections to the anæmia theory is the fact that in individuals suffering

from anæmia of whatever cause, there is ordinarily a well-marked tendency to insomnia. On the other hand, in states of plethora, the tendency to sleep is often very conspicuous. Another objection to the theory is that the results of the ligation of the blood vessels do not favour it. The conclusions at which Vulpian arrives are, that sleep, natural or artificial, is a phenomenon essentially independent of the vaso-motor system and the state of blood-vessels. The anatomical elements of the grey substance of certain parts of the encephalon have a habit at certain times and under certain conditions, of lapsing into a state of functional inactivity. The vascular, cardiac, and other manifestations are only accessory: they may be concomitant, or consecutive, but they do not play any essential part in the physiology of sleep.

The author concludes that the action exercised by the sympathetic upon the parotid gland is the result of an alteration in the blood supply, and is therefore a vaso-motor, and not a secretory action. In other words, the sympathetic does not affect the secretory elements of the parotid gland.

12. *On the Vagus Nerve.*—Jolyet believes that he has been able to demonstrate that the vagus nerve in the dog possesses a motor function in relation to the œsophagus and stomach, since he shows that after section of the spinal accessory nerve, the corresponding vagus still retains its influence over these organs. Thus, after the spinal accessory nerve has been destroyed, stimulation of the vagus in the region of the neck causes an energetic contraction of the œsophagus along its whole length, which ultimately extends to the stomach. Similarly, he finds that stimulation of the peripheral extremity of the vagus in the head produced marked contraction of the œsophagus in its whole extent. From the experiments of the author, he concludes that in the dog, as well as in all other animals in which, in consequence of the facility of this operation, the spinal accessory nerve has been torn out by the roots, the spinal accessory presides over the movements of the muscles of the larynx ministering to phonation, whilst it leaves the larynx intact, in so far as it is an organ of respiration. In other words, the spinal accessory nerve does not govern the movements by which the separation of the lips of the glottis are effected. In fact, the ablation of the spinal accessory nerve of one side is equivalent to complete section of the cervical vagus of the corresponding side, so far as regards the vocal action of the larynx, since the section of the opposite vagus deprives the animal altogether of voice. It is not, however, the same in regard to the respiratory action of the larynx, the interference with respiration caused by the approximation of the lips of the glottis only occurring after section of both vagi. Lastly, as in other animals, the spinal accessory in the dog is the regulator of the heart.

13. *The effects of Jaborandi and Pilocarpin upon the Eye.*—The results arrived at are: 1. That the alcoholic and aqueous extracts of jaborandi, aside from their purely mechanical irritation of the conjunctiva, exert no influence whatever upon the eye. Manifestly the potential elements of jaborandi are not contained in both extracts. 2. Infusion of jaborandi administered internally occasions a moderate degree of spasm of accommodation, with recession of the near point, and glistening scotomata. The lachrymal secretion was somewhat increased. 3. The muriate of pilocarpin, locally applied, occasions a high degree of myosis, and a slight degree of spasm of accommodation, but injected sub-cu-

taneously a high degree of spasm of accommodation, and a slight degree of myosis, with recession of the near point, and hypersecretion of tears. No diminution of acuteness of vision, under this mode of experimentation, could be detected.

14. *Luchsinger on the Spinal Cord.*—The author believes that the spinal cord contains a series of centres which command the functions of all parts. These functional centres are put in action by sensory nerves (reflex action), and by the direct action of physiological stimuli (automatic activity). All recent facts, the author states, are in opposition to the grouping of a series of centres in the medulla. The demonstration of motor centres was partly shown, when the reflex power of the spinal cord was recognised. Luchsinger had, therefore, only to prove that it was automatic, and for this purpose it was necessary to apply a direct stimulus to the cord, more particularly to the cells of the anterior cornua. Kussmaul and Jenner effected this by retarding the respiration, the blood in dyspnoea being one of the most powerful excitants of medullary activity. Luchsinger, adopting this method, found, on experimenting with a cat, that the blood in dyspnoea caused local convulsions in the posterior portion, whilst general convulsions ensued after section of the cord in the dorsal region, or if the circulation in the carotid and cervical arteries was arrested; but if the circulation was stopped in the spinal cord itself, by tightening a ligature passed round the descending aorta the convulsions were localised to the posterior portion. This experiment proves the high sensibility of the ganglionic cells in relation to the blood in asphyxia. It is therefore useless, in the opinion of the author, to speak of encephalic convulsive centres. Working with picrotoxin, one of the so-called convulsive poisons, Luchsinger finds that it has a direct stimulating effect upon the motor centres of the spinal cord, and that it acts also upon the whole of the functional centres, exalting all the medullary functions: that it causes convulsions, constriction of the blood vessels, sweating, even after the separation of the medulla from the spinal cord. To show the automatic activity of the spinal cord, Luchsinger makes use of the same method, viz., asphyxia. He cuts the cord in a cat which has been urarised; on then discontinuing artificial respiration, a rise in blood pressure is observed, due to hyperactivity of the vaso-motor centres. The conclusion at which he arrives is, therefore, that the proximate centres for all the functions of the trunk are seated in the spinal cord, and that every substance which excites one of these centres excites also the rest.

15. *On the Accelerator Nerves of the Heart.*—Acceleration of the pulse is produced by stimulation of the nerve, which unites the last cervical ganglion of the sympathetic trunk with the first thoracic ganglion. Drs. Stricker and Wagner, to discover the real origin of these accelerating fibres, isolated the sympathetic trunk in the abdomen of a dog, by cutting all the afferent branches, and then stimulating it at the sixth thoracic ganglion. The effect of this stimulation is due to the action of the current upon the nerve already spoken of, which is known as the loop of Vieussens. If ligatures be applied above and below this loop, the upper segment alone remains sensitive to stimuli. The acceleration is the more marked the nearer the electrodes are placed to the loop of Vieussens; it is therefore supposed that the accelerating fibres increase in number from below upwards. Further to

show the origin of the accelerating fibres, the authors cut the vagus, and noticed an acceleration of the pulse, which was lessened after section of the two loops of Vieussens, though the heart-beats were still slightly more rapid than at the commencement of the experiment. The acceleration following section of the vagus is caused by the accelerating tonic effect of the medulla, the existence of which proves that the fibres of the loop take origin from the medulla. On excitation therefore of the medulla, the authors have been able to exhibit an acceleration of the heart-beat; and they obtained a similar result, but more slowly, and only when the blood pressure had risen considerably after section of the vagi. The acceleration produced by stimulation of the medulla is therefore due to stimulation of the accelerator fibres, and to an increase in the blood-pressure. In short, then, the accelerator nerves arise from the cervical cord, pass downwards, and then upwards, in the form of loops, to the six upper thoracic ganglia, and unite at the loop of Vieussens. The function of the accelerating nerves is to counteract the normal influence of the inhibitory nerves. The two sets of nerves are therefore antagonistic to each other. The authors deny the statement of Baxt that the heart is insensible to the influence of the accelerators, after stimulation of the vagus.

16. *The Physiology of Labyrinthine Vertigo.*—The tympanum is supplied with arterial blood from the carotid, and its veins discharge into the jugular. The labyrinth is supplied by the vertebral, and its veins discharge into the superior petrosal sinus. The vertebral artery derives many of its vaso-motor nerves from the inferior cervical ganglion, and these nerves communicate with the brachial plexus. The same ganglion furnishes the inferior cardiac nerve, the principal inhibitory nerve of the heart. Besides these connections, a fasciculus is given off from the pneumogastric, near the recurrent laryngeal, to the lower cervical ganglion. We have, therefore, in this ganglion an organ connecting the upper extremities, heart, and upper portion of the digestive tract, with the labyrinthine circulation. From any irritation there may consequently arise a diminished inhibition, which will relax the walls of the vertebral artery, and cause pressure on the endolymph, i.e., vertigo. Hence such vertigo does not necessarily imply previous disease of the ear. Weir Mitchell has noticed that gunshot wounds of the upper extremities are often followed by dizziness. Quinine in large doses and tobacco diminish vascular tonus; while bromine, the bromides, and especially hydro-bromic acid, stimulate vascular innervation. Hence the antagonistic effect of the latter on the tinnitus caused by the former.

17. *On the effects of Circulation on the Respiration.*—The results obtained with the frog are that the frequency of the heart-beats increase at each inspiration; and diminish during expiration, owing to the stimulation of the vagus. The size of the lung capillaries varies with the respiration. Alteration of pressure in the thorax reacts through the aorta, so as to bring about a change in the blood-pressure in that vessel. The sinking of the diaphragm during inspiration increases the blood-pressure; active expiration has the same effect. The influence of respiration upon the flow of venous blood is in conformity with the generally received theory. The vaso-motor nerves complicate the mechanism of respiration. The author then proceeds to investigate the influence which the gases of the blood in different composition exert upon the

blood-pressure. He states that asphyxia has an inconstant effect upon the cutaneous vessels. The phenomena of asphyxia appear to show that there is a mechanism which compensates to a certain extent respiratory troubles. The investigations resulted from observations made by Goltstein, to the effect that in an animal poisoned with protoxide of nitrogen, the condition of asphyxia coincided with a normal blood-pressure, or at least with only a very slight rise in pressure. D'ARCY POWER.

DERMATOLOGY.

RECENT PAPERS.

1. RITTER VON RITTERSHAIN.—Exfoliating Dermatitis of Infants. (*Centralztg. f. Kinderheilk.*, 1878, No. 1. Abstracted in *Centralblatt*, 1879, No. 2.)

2. Report of the Provincial Commission of Mantua on Pellagra.

3. CHAMBERD.—Diffuse Xanthelasma. (*La France Médicale*.)

4. MAYOR.—Cutaneous Eruptions, caused by Chloral. (*La France Médicale*, 1879, No. 3.)

5. MADER and CHIRI.—Scleroderma Universalis. (*Archiv f. Dermat. u. Syphilis*, 1878, 2nd Heft.)

6. APOLANT.—A Rash produced by Morphia. (*Berlin Klin. Woch.*, quoted in *Archiv f. Dermat. u. Syphilis*, 1878, 2nd Heft.)

7. VOLQUARDSON.—Malarial Erythema. (Abstract in *Archiv f. Dermat. u. Syph.*, 1878, 2nd Heft.)

8. TANTURRI.—Erythema Multiforme Exsudativum. (*Il Morgagni*, April and May 1877.)

9. JAMIESON.—The Histology of Psoriasis. (*Edin. Med. Journal*, January 1879.)

1. *Exfoliating Dermatitis of Infants*.—Under this name the author describes an infectious disease of non-febrile character which has prevailed in the Foundling Hospital at Prague. The malady prevailed amongst children a few days or weeks old, ran its course in about a week, and was fatal to about half the children attacked. From the face, which was usually affected first, the disease spread to the rest of the body. The first symptom was dryness of the skin, followed in succession by stages of erythema and exfoliation. The children that recovered were liable to suffer from eczema and boils.

2. *Pellagra in Mantua*.—The Provincial Commission of Mantua reports that whilst in Lombardy in 1830, there were over 20,000 sufferers from pellagra, twenty-six years later there were over 38,000, and that the number still increases. The report describes the affection as a specific constitutional disease produced by degradation and misery, and characterised by symptoms of general prostration, desquamation of the epidermis on exposed parts of the body, and subsequent formation of rhagades and bullæ.

3. *Chamberd on Diffuse Xanthelasma*.—M. Chamberd describes a case of xanthelasma in a man, aged 42, who suffered from jaundice and had hypertrophy of the liver. The spots were in the forms of X. planum and X. tuberosum, and existed on the eyelids, the commissures of the lips, the mucous surface of the prepuce, and, isolated, on almost the whole surface of the body. All the tubercles, especially those on the fingers, were the seat of disagreeable sensations. From the latter situation one was removed for histological examination. The alterations found consist essentially in a process of peri-

neuritis and endoneuritis, characterised by the production of a fibrous tissue of new formation, which surrounds and penetrates the funiculi, strangling the nerve-tubes, of which they are composed. The author promises more detailed information regarding the pathology of the disease, as it was illustrated in his specimens, in a future publication.

4. *Mayor on Cutaneous Eruptions caused by Chloral*.—The author records five cases in which the administration of chloral in affections of very various nature was followed by definite symptoms in a uniform order. These came on after eating, beginning with redness of the face, excited action of the heart, and dyspnœa. The redness spreads to the neck; the palms, and sometimes the soles, being also affected. The eruption then appears on other parts of the body, and especially on the dorsal surface of the hands and wrists, the superior and anterior part of the thorax, the extensor surfaces of the knees and elbows, and the dorsum of the foot. It lasts from half-an-hour to a few hours, with itchiness of the part affected, and is followed the next day by slight desquamation. The spots are of a deep rose-colour, are sometimes slightly elevated, and have sometimes a sinuous border.

5. *Mader and Chiri on Scleroderma Universalis*.—A fatal case of this disease in a girl, aged 17, is recorded by Dr. Mader. A *post mortem* examination was made by Dr. Chiri, who also examined the skin microscopically. He found thickening of the cutaneous and subcutaneous connective tissue, and a deposit of pigment in the epidermi and *pars papillaris*. This thickened connective tissue had a tendency to shrink—*sclerema atrophicum*.

6. *Apolant on a Rash produced by the Administration of Morphia*.—The author reports a case in which an urticaria-like eruption always followed the exhibition of this drug.

7. *Volquardson on Malarial Erythema*.—The author reports a case of erythema nodosum, and one of erythema papulatum, in the United States, in both instances the disease accompanying malarial fever, and disappearing under the use of quinine.

8. *Tanturri on Erythema Multiforme Exsudativum*.—The author explains the occurrence of the eruption in this disease, specially on the extensor surfaces of the extremities, by the fact that in these situations the epidermis is unusually thick, and consequently the papillary vessels unusually developed.

9. *Jamieson on the Histology of Psoriasis*.—Dr. Jamieson agrees with Dr. Robinson of New York, in regarding the changes found in sections of psoriatic skin, as indicating that the disease consists essentially in an excessive growth of the rete mucosum; projections downwards of this structure, simulating an appearance of enlarged papillæ.

G. THIN, M.D.

MEDICINE.

RECENT PAPERS.

ARMOR.—Symptoms and Signs of the Precursory Stage of Const. Phthisis. (*Proc. of the Med. Soc. of the County of Kings*, No. 11, 1879.)

CHAVERNAC.—Hydrophobia. (*Union Méd.*, No. 5, 1879.)

CLARK.—On the Varieties of Phthisis. (*Canada Med. Record*, No. 3, Vol. vii, 1878.)

CLAUS.—Cerebro-Spinal Sclerosis. (*Centrbl.*, No. 2, 1879.)

CONNOR.—Hystero-epilepsy. (*Ibid.*)

- DAWASKY.—On Ozaena Fetida. (*Memorab.*, No. 12, Vol. xiii.)
- DA COSTA.—Clinical Observations on Abdominal Aneurism. (*Bost. Med. and Surg. Journal*, No. 26, Vol. xcix, 1878.)
- DESLATS.—Two Cases of Acute Rheumatism, treated with Salicylate of Soda. (*Gaz. Heb.*, No. 3, 1879.)
- DEBOVE.—Tuberculous Spinal Meningitis. (*Progr. Méd.*, No. 3, 1879.)
- DESNOS.—Etiology of Pleuro-Pulmonary Combinations in Cancerous Strictures of the Oesophagus. (*Ibid.*)
- DUJARDIN-BEAUMETZ.—On a case of Sudden Arrest in the Circulation in the Superior Vena Cava in a patient with Aneurism. (*Gaz. Heb.*, No. 2, 1879.)
- FULLER.—Exophthalmic Goitre. (*Detroit Lancet*, No. 12, 1878.)
- FURST.—Death by Suffocation, caused by an Ascaris Lumbricoides in the Superior Air Passages. (*Wien. Med. Woch.*, Nos. 3 and 4, 1879.)
- HALMAGRAND.—Case of Excessive Perspiration. (*Mouv. Méd.*, No. 3, 1879.)
- HARDY.—Three Clinical Cases—1, Eczema of the Tongue and the Inner Buccal Membrane; 2, Mercurial Trembling; 3, Castration. (*Gaz. des Hôp.*, No. 7, 1879.)
- HEUCK.—On a Case of Acute Paralysis of the Cord. (*Berl. Klin. Woch.*, No. 3, 1879.)
- HUCHARD.—On a Case of Membranous Mucons Concretions of the Intestines. (*France Méd.*, No. 5, 1879.)
- KAHLER.—On Ataxy as a Symptom of Disease of the Nervous Centres. (*Prag. Med. Woch.*, Nos. 2, 3, Vol. iv, 1879.)
- LABBÉ.—On Pulmonary Phthisis. (*Mouv. Méd.*, No. 2, 1879.)
- LIVET.—On Treatment of Acute Rheumatism with Cold Water. (*Journal des Conn. Méd.*, No. 2, 1879.)
- MERCIER.—Typhoid Fever and Periostitis. (*Revue Mem. de Méd. et de Chir.*, No. 1, 1879.)
- OBRASTZOFF.—On Syphilis. (*Med. News* (Russian) Nos. 298, 299, 1878.)
- OVION.—Subcutaneous Tumour. (*Ibid.*)
- PAOLINOFF.—Diagnosis and Treatment of Pneumonia Syphilitica. (*Allg. Med. Cent. Zeit.*, Nos. 5, 6, 7, 1879.)
- SAINT-ANGE.—Pneumonia of the superior parts of the Lungs. (*Journ. des Conn. Méd.*, No. 3, 1879.)
- SANDOUZY.—Hysteria. (*Journ. des Conn. Méd.*, No. 3, 1879.)
- SOKOLOWSKI.—Remarks on Hæmorrhages which occur in Phthisis. (*Deutsche Med. Woch.*, No. 3, 1879.)
- STILLÉ.—Acute Articular Rheumatism. (*Med. Record*, No. 2, Vol. xv, 1879.)
- STROHMAYER.—Case of Poisoning with Washing Blue. (*Med. Chir. Centr. Blatt*, No. 1, 1879.)
- VEIT.—On Coma Diabeticum. (*Ibid.*)
- VERGELY.—On Local Accidents in Vaccination. (*Ibid.*)
- VIERN.—Syphilis of the Brain. (*Med. Chir. Centr. Blatt*, No. 2, 1879.)
- VRUBS.—Case of Pernicious Anæmia. (*Hospitals-Tidende*, No. 1, 1879.)
- WASSILJEW.—Case of Dislocation of the Spleen. (*Centrbl.*, No. 2, 1879.)
- WEISS.—On Tendon-reflex. (*Wien. Med. Woch.*, Nos. 1, 2, 3, 1879.)

HUCHARD ON PULMONARY THROMBOSIS AS A CAUSE OF SUDDEN (OR RAPID) DEATH IN CERTAIN CACHEXIE, TUBERCULOSIS, CARCINOSIS, ETC.—Dr. Huchard (*L'Union Médicale*, January 23 and 25), after calling attention to the well-known fact that in cachectic diseases, owing to the profound changes which the composition of the blood undergoes, together with progressive enfeeblement of the cardiac contractility, the tendency to sanguineous coagulations in the veins of the limbs, the sinuses of the dura mater, and elsewhere, is great, and fraught with much danger, from the consequent presence of wandering coagula in the veins, and their arrest in

the right side of the heart, or even as emboli in the pulmonary artery, maintains that in many cases when sudden death is due to plugging of the pulmonary artery, the plug has been formed at the spot where it is found, and that we have to do with a thrombus, and not an embolus. It has been pointed out that in cases of marasmic embolism the plug is usually formed at spots where there is the greatest tendency to blood stasis, *i.e.*, at the points furthest removed from the action of the cardiac impulse or the thoracic aspirations; now the position of the pulmonary artery is little calculated to favour this tendency to clotting; but, on the other hand, the blood it contains is rich in carbonic acid and poor in oxygen, two conditions which favour thrombosis; moreover, in pulmonary tuberculosis the right side of the heart may become so feeble from muscular degeneration, and so much of the respiratory surface of the lung may be destroyed by the disease, as to afford conditions very favourable to pulmonary thrombosis.

M. Huchard, in support of his view, gives the details of a case of sudden death in advanced phthisis, where, at the autopsy, a clot was found occupying the left branch of the pulmonary artery and its bifurcations, and of such a character as left no doubt that it had been formed at the spot where it was found. M. Charcot had also observed a case of pulmonary tuberculosis, the subject of which was suddenly seized with extreme dyspnoea, steadily increasing until the death of the patient, which occurred at the end of three days. Clots were found after death in the pulmonary arteries, in the right ventricle, and in the veins of the right lower limb. Examination of the clot in the pulmonary artery showed that it had been formed where it was found. Other observers have borne testimony to the occurrence of the same condition as a cause of sudden death in phthisis.

M. Huchard mentions also a case of gastric carcinoma, where the patient died suddenly from a violent attack of dyspnoea, and where, at the autopsy, consistent homogeneous plugs were found in the branches of the left pulmonary artery, which appeared to have been formed at the spot where they were found.

M. Huchard thinks his observations throw a new light on the history of sudden death in phthisis. He admits that the most common cause of sudden death in advanced tuberculosis is the simultaneous existence of cerebral anæmia and cardiac paresis. "The brain does not transmit to the heart the necessary nervous influx. The heart no longer sends to the brain the blood necessary to nourish and animate it, a vicious, morbid circle, from which the patient cannot escape, and life is therefore arrested." In such case, death arises from syncope, but there are other cases in which symptoms of asphyxia are blended with those of syncope; in these we have to do either with pulmonary embolism or pulmonary thrombosis. In the latter case death may be less rapid, but it may also be equally sudden if the thrombus is produced in a lung already gravely affected, and the function of which is almost entirely destroyed.

J. BURNEY YEO, M.D.

FOULIS ON A CASE WHERE THERE WAS DESTRUCTION OF THE THIRD LEFT FRONTAL CONVOLUTION WITHOUT APHASIA.—Dr. Foulis, in the *British Medical Journal*, March 1879, p. 383, reports the case of a man, aged 64, who was admitted into the Royal Infirmary of Glasgow for cardiac

dropsy, which proved fatal. During the two months he was in the infirmary there were no symptoms that pointed to cerebral disease, but after death, the arteries of the brain were found atheromatous. The third left frontal convolution was almost entirely destroyed, along with two-thirds of the island of Reil; over this area the pia-mater was disorganised, and converted into a non-vascular, transparent, shreddy membrane, adhering to the pulpy brown surface of the irregular excavation, where the brain substance was missing. The brain and its membranes, in other parts, seemed to be free from disease. The patient was right-handed, and never suffered from hemiplegia.

HULKE ON A CASE OF RECOVERY AFTER EVACUATION OF A TRAUMATIC ABSCESS OF THE BRAIN.—Mr. J. W. Hulke read a paper at the Medico-Chirurgical Society, in March 1879, based upon a case that occurred in an errand-boy, who struck his forehead against a fence, and was momentarily stunned. For seven weeks he continued his work, although he suffered more or less headache; then retching and hemiplegia supervened. The frontal bone was trephined at the seat of injury, the dura mater seemed healthy. On aspiration, pus was detected, and then a free opening was made through the dura mater, and three drachms of pus escaped. The patient recovered, but was blind through double optic neuritis.

SYMES THOMPSON ON GOUT IN ITS RELATION TO LIFE INSURANCE.—Dr. Symes Thompson, in a paper upon this subject, read before the Medical Society of London, and noted in *The Lancet*, March 1879, p. 409, showed, by a careful analysis of statistics, that an extra rating of 25 per cent. only just met the loss occasioned by the great mortality in persons liable to gout.

CÆSAR ON BELLADONNA RASH.—Mr. Julius Cæsar in *The Lancet*, March 1879, p. 431, reports a case in which belladonna, administered internally, was followed by the well-known scarlatinal rash, and applied externally, as plaster, simultaneously produced a well-marked herpetic eruption. [See also Dr. Farquharson's Lecture on Skin Irritation due to Drugs. *Brit. Med. Jour.*, Feb. 15, 1879.]

BABER ON A POSSIBLE SOURCE OF ERROR IN DIAGNOSING FUNGUS OF THE EAR.—Mr. E. Cresswell Baber (*Brit. Med. Jour.*, March 1879, p. 426), having noticed several consecutive cases in which masses of fungi were seen floating in the effluent water, after syringing the ear, was induced to examine the syringes, and in each instrument found the piston to be the source of the growth. [To those interested in the subject of otomycosis, a series of instructive cases are quoted by Dr. A. Tiljenroth, in the *Medico-Chir. Review*, July 1873, p. 221. In the *Microscop. Jour.*, vol. i, 1846, p. 146, Dr. Inman pointed out that the hard pellet, occasionally accumulating in the meatus was not cerumen, but composed entirely of mucedinous fungi, and a minute portion of epithelium.—*Rep.*] R. NEALE, M.D.

HANOT ON HYPERTROPHIC CIRRHOSIS WITH JAUNDICE.—M. Hanot (*Progrès Médical*, No. 10) publishes a case of this disease, described by him in his thesis (1875). Patient, a young married woman, twenty-two, had been ill and jaundiced for two years; she had not abused alcohol; she complained of pain in the right side, and frequent bleeding from the nose. The abdomen was much distended; the liver

dulness passed from four fingers' breadths below the false ribs to six centimètres (2½ inches) below the clavicle. The spleen was enlarged and painful. The subcutaneous abdominal veins were slightly dilated. No ascites. The pulse was very small, 100, the skin hot, dry. Temp. 39.6 (105.2). Heart and lungs normal. Urine contained bile-pigment and albumen. Ascites developed before death, together with general œdema of the lower extremities. At the autopsy, the thoracic organs presented no anomaly, except some serous effusion. The liver weighed 2,700 grammes (about 9 lbs.), was large, of woody toughness, and grey; its upper surface was slightly granular; the lower surface more uniform. On section the granulations were better seen. The microscopical examination made by M. Menu showed extra- and intra-lobular cirrhosis, with abnormal development of biliary canaliculi.

R. SAUNDBY, M.D.

HUCHARD ON MUCOUS CONCRETIONS IN THE INTESTINE.—M. Henri Huchard reports an interesting case of intestinal concretions (*La France Médicale*, January 15, 1879). A woman, aged 50, suffered for some time from obstinate constipation, due partly to anæmia, and partly to a fibroid tumour of the uterus pressing on the rectum. After a short attack of diarrhœa, she passed a mass of grey threads which interlaced, and formed a body the size of a pigeon's egg. The filaments were 35 centimètres in length on average, with a breadth of 8 millimètres. They were hollow, resembling cooked macaroni. After the evacuation the patient improved. M. Rémy examined the mass, and described the cords as being longitudinally striated, and unaltered by acetic acid, their nature being, therefore, mucous. This striated structure contained leucocytes, blood corpuscles, deformed cylindrical cells, and oil globules. M. Huchard does not believe, with M. Raynaud, that such membraniform mucous concretions are caused by desquamation of the mucous membrane, but supports the views of M. Debove, that a hypersecretion of the mucus coats the intestine, and, subsequently becoming detached, contracts to form the tubular filaments. The hypersecretion is usually brought on by constipation, not as a rule neurotic. Occasionally the cause would seem to be herpetic, the process then resembling herpetic pseudo-membranous dysmenorrhœa. If catarrhal inflammation be present, it is secondary to constipation.

GEO. A. GIBSON, M.B., D.Sc.

STRÜMPPELL ON A CASE OF GENERAL ANÆSTHESIA.—(*Med. Chir. Centralblatt*, January 17.) The patient, a lad aged 16, had complained previously of repeated fits of giddiness. Nothing, however, could be detected which might have led to the supposition that the brain was affected, except a considerable irregularity of the respiration and the pulse. The fits of giddiness became soon better, when suddenly, without any known reason, the spinal column and the epigastric region became very tender on pressure, and choreiform twitchings and spasms of the extremities were observed. These latter were subsequently restricted to the right extremities. On examining the sensibility of the patient it was found that the right side of the body was perfectly anæsthetic, the right eye had retained its normal power of vision, but the left one had lost it. Later on, the extensor muscles of the right hand, as well as most of the muscles of the right leg were paralysed, so that the patient dragged it after him

when walking. Other peculiar phenomena then appeared, so that a month later the patient presented the following characteristics. 1. Tactile sensibility of the skin was entirely extinct. 2. All the mucous membranes which are accessible to observation were similarly affected. The patient would drop his food from his mouth when eating; the epiglottis could be touched or irritated without producing any sensation; the catheter could be introduced without the patient feeling it, etc. It seemed, also, as if the sensations of hunger and thirst were destroyed, or very much weakened. 3. The sensations both of smell and taste were extinct, the left eye had entirely lost visual power, and the hearing very much impaired on the right ear. 4. There was a cessation of all muscular sensations. When the patient's eyes were bandaged he could be carried about the room without knowing it. 5. Several of the reflex actions of the skin still existed, as well as those of closing the eyelids, swallowing, etc. Other reflex movements were absent, such as sneezing, drawing deep inspirations when cold water was poured over him, etc.

It was most interesting to watch the patient's gait. So long as his eyes were open he walked pretty well, with the exception of dragging the right leg after him. If told to shut his eyes he would invariably fall down in a few minutes. All the movements of the extremities, those which were paralysed excepted, were perfectly normal so long as they could be controlled by the patient's eyesight. If this control were prevented, if the normal eye was bandaged, his movements did not become atactic, but extremely undecided in their direction and measure. If the eyes were closed, the patient could neither move his fingers separately nor make any complicated movements with his hands; he endeavoured, however, in such cases, to control his movements as far as possible by hearing.

The question being often asked as to what would happen if the patient's only remaining organs of sense were closed, this experiment was often made, and the seeing eye and hearing ear bandaged. The result was invariably the same; the patient would always go to sleep after a few minutes, he could, therefore, be plunged into a profound sleep at any time of the day or night without any difficulty. He could only be awakened by throwing a strong light on his normal eye, or by producing a loud sound close to his hearing ear.

ANEURISM OF THE LEFT VENTRICLE.—(*Lyon Méd.*, January 26, 1879.) At a recent meeting of the Société des Sciences Médicales a very interesting specimen of an aneurism of the left ventricle was presented. The patient had always been healthy, but much addicted to drinking. In April 1878 the first symptoms of the subsequent affection appeared, anorexia, migrating pains in the groins, and rapid loss of flesh. Subsequently, he began to vomit his food, either at night or the next morning. On examination, a hard tumour, which occupied about four square inches, was found in the epigastric region. The patient looked cachectic, but no other disease or trouble could be discovered at the time. In November a very small amount of fluctuation could be felt in the lower portions of the abdomen. In December the tumour could no longer be felt, the patient vomited his food about an hour after taking it, and died on the next day. At the necropsy it was found that the whole of the stomach was filled with alimentary matter. The small curvature was entirely occupied by a hard, fibrous neoplasm, which

surrounded the pylorus, constricting it to a considerable extent. This tumour was attached by adhesions to the posterior walls of the abdomen, the pancreas, and spleen; all the parts covered by it were hard. The most interesting object, however, was the heart, which, although of normal weight and size, showed on the outside a tumour of the size of a nut, which, on an incision being made, proved to be an aneurism of the left ventricle. Its walls were rugged, the whole of it was calcified, and blood-clots and fibrine were found between the partitions of the inner walls. An embolus originating from one of the above-mentioned clots must in all probability have been the cause of death. The diagnosis—alcoholic cirrhosis of the liver, had been made previous to the patient's decease.

ANGER ON A CASE OF NEURALGIC OSTEOMYELITIS.—At a meeting of the Société de Chirurgie, on January 8, 1879, M. Anger communicated the following curious fact. The patient, a man aged 54, had one day been out hunting, but did not over-fatigue himself. The next day he suddenly felt a violent pain in the right leg, which prevented him from walking. Nothing could be seen on the member, the tibia was not tender to pressure, or even when struck with some instrument, but the pain was intense whenever the patient's foot touched the ground. During the whole of the following month nothing could be seen on the diseased leg, no swelling, no redness, nothing but the same pain, which came on in paroxysms, without any regular inter-mittence. The pains were most violent on the calf of the leg, the ankle, and along the course of the anterior tibial nerve. A blister was applied to the inner surface of the tibia, and the gathering subsequently incised down to the periosteum, when it was found that the latter was detached from the bone on a circumference of about a threepenny piece. A few days later a purulent gathering was discovered on the upper third of the bone. Later on, the knee was swollen, which swelling was said to be osteomyelitis of the tibia, which had invaded the knee. The medullary canal of the tibia being filled with pus, a drain was introduced, large incisions made on both sides of the knee, and Lister's treatment adopted. The leg suppurred for about three months, when abscesses appeared on different parts of the body, and the patient died.

We have here a case of spontaneous osteomyelitis, which for a whole month was restricted to the tibia; no particular spot of the bone was ever found to be particularly painful, and during that month there was no swelling. The only peculiar phenomena were spasms and incessant muscular twitches; these may, perhaps, prove useful in future in making a diagnosis. It is evident that the case in question was one of neuralgic osteomyelitis.

KOCH ON A CASE OF APHASIA CAUSED BY ANÆMIA.—(*Berl. Klin. Woch.*, February 24, 1879.) A great many cases of aphasia have been lately published, their etiology having always been more or less clear. In most of these cases there had been either an apoplectic stroke or some traumatic lesion, either of the frontal bone or the anterior superior surface of the parietal bone, the underlying parts of the brain being always found much altered at *post mortem* examinations. The case described by Dr. Koch in the *Berl. Klin. Woch.*, February 24, 1879, differs from those which come under notice generally in that it does not originate in any lesion of the

brain. It is brought on directly by hyperæmia of the brain, has been noticed when the patient was in an anæmic state, is transitory, and does not leave any evil effects behind it. The patient, a medical man aged 36, had always enjoyed good health; there was no predisposition to nervous disorder in his family, except, perhaps, a slight tendency to despondency inherited from his mother. From the time he had first begun to practice he suffered occasionally from hemicrania and a kind of dull headache, which generally, however, vanished towards the afternoon. During the last years he had been rather irritable, and looked pale. That is all his previous history. One day towards the end of August 1873, the patient had his first attack of aphasia. He had been vexed about something, when he suddenly experienced a slight feeling of giddiness, and numbness about the mouth and in several fingers, which was followed by the utter impossibility of pronouncing certain words. His tongue was not paralysed, neither was there any loss of consciousness; he felt very much troubled about this new symptom, and shrugged his shoulders because he could not make himself understood by his wife. This phenomenon lasted for about a quarter of an hour; the patient lay down quietly, without making any further attempts to speak, and half an hour later he had recovered his powers of speech, and only felt a slight attack of hemicrania.

During the whole of the following winter the patient suffered more than ever from his hemicrania, but the next attack only came on in the spring of 1874, and was frequently repeated from that time, often occurring several times daily. The patient frequently could not find the right word in writing; the symptoms were always the same, and were repeated in the same series; the fit never lasted above half an hour. In August 1874, the patient went to St. Moritz, in the Engadin, where he drank daily several glasses of chalybeate water, and took baths. He felt much better there, had only one more attack at the beginning of his cure, and was even able to undertake several long excursions to the mountains. He remained well for the rest of the year, till the spring of 1875, when he again had a few slight attacks; they stayed away till September 1876, when five more occurred; these were the last, and the patient has been free from them ever since. Two out of the five seem to have been brought on by chills, one of them being followed by a severe cold, whilst three others were, as usual, preceded and followed by headaches.

Remarks.—1. It is evident that this case of aphasia, together with the accompanying circumstances, was caused by anæmia; the good effect of the chalybeate waters seems to vouch for this. 2. The direct cause of every attack was evidently increased rush of blood to the nervous centres. This appears from the giddiness and headache, and that they were often brought on by chills, once even with the symptoms of angina. 3. The aphasia was evidently of central origin. The patient could not find the word he wanted, and therefore could not write it; in attempting to speak, he would use other words unintentionally. 4. Similar peculiar paralytical phenomena have often been observed to occur in chlorotic and hysterical patients. But there is neither chlorosis nor hysteria in our case, only a slight tendency to melancholy and anæmia, the constant recurring of the same symptoms for four years also shows that they cannot be classified under the head of hysteria, which presents the most changeable and

various phenomena, as all medical practitioners know well. Occasionally it is true the symptoms would vary a little, e.g., there was once or twice a slight feeling of formication in the fingers or around the mouth, but that is all. The sensation of formication in the fingers is a symptom of anæsthesia of the plexus brachialis, which has its seat in the centre in the spine, and is propagated into the plexus brachialis; the aphasia is a symptom of a transitory psychical weakness in the centre of the brain. This curious case might perhaps be explained by saying that a sudden rush of the blood to the brain and spine, owing to different circumstances, may on its way have constantly met the same weak portions of the brain or coats of the vessels, which could not resist the increased pressure, and thereby gave rise to the symptoms detailed, whilst healthier portions of the brain or vessels were either not affected by the rush of blood, or did not suffer beyond the symptoms of headache or vertigo.

DESSOIS ON GLOSSOPHYTIS.—The author is of opinion (*Thèse de Paris*, 1878)—1. That the black hue of the tongue and hypertrophy of the papillæ of the tongue is always connected with the presence of a vegetable parasite. 2. That this colouring must be ascribed to the fungus, from which it spreads to the long epithelial sheaths of the papillæ. 3. That the hypertrophy of the papillæ, which exists more or less before the affection breaks out on the tongue, and which proves a fertile soil for the parasite, is principally due, at a later period, to the irritation caused by this cryptogam.

MOTT ON CONVULSIONS CAUSED BY CONSTRICTION OF THE GLANS PENIS.—Dr. A. R. Mott, Jr., House Surgeon of Workhouse Hospital, New York, reports the following unique case (*Hosp. Gazette*, Jan. 9, 1879):—John English, native of England, clerk, aged 46, admitted to hospital Dec. 23, 1878. Had fallen from his bunk in a convulsion, was semi-conscious, showed no signs of injury. Pulse, 120; temp., 102. Respiration normal, pupils slightly contracted, showed no annoyance on being disturbed. Had several convulsions, passed urine and fæces in bed, and continued in stupor until the evening of Dec. 25, 1878. Accidentally it was discovered that the glans penis was swollen, and a piece of twine was found tied twice around the penis posterior to the corona glandis, but not tightly enough to prevent the flow of urine. The string was removed, and in half an hour the patient asked for some water, which he drank, saying he felt perfectly well. Up to the 28th no more convulsions had occurred, and he was discharged cured.

The diagnosis was convulsions due to an irritation acting reflexly. Dr. Mott adds: "The case seems to add strength to the theory of those who believe in the potency of a constricted meatus urinarius to produce intense nervous disturbance, and to justify the operation for its enlargement."

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

BADIA. — Contribucion a la Medicacion hipodérmica. Nuevas aplicaciones del Sulfato de Quina empleado en esta forma. (*Barcelona Encicl. Med.-Farm.*, No. 3, 1879.)

- BRAMBLETT.—Some of the Phenomena produced by Large Doses of the Sulphates of Quinia and Cinchonidia when given as Antipyretics and Antiperiodics. (*Trans. Med. Soc. of Virginia*, No. 2, 1879.)
- DIXON.—Note on a Method of Administering Chloral Hydrate. (*Practitioner*, No. 22, 1879.)
- EASMON.—Notes on Transfusion and the Intravascular Treatment of Disease. (*Students' Journ. and Hosp. Gas.*, No. 7, 1879.)
- FRANK.—Zur Chloroformnarkose. (*Wien. Med. Presse*, No. 20, 1879.)
- GOULD.—The Value of Cincho-quinine. (*Am. Med. Bi-weekly*, Louisville, No. 10, 1879.)
- HAWES.—The Internal Administration of Nitrite of Amyl. (*Tr. Detroit M. and Libr. Ass.*, No. 1, 1879.)
- HOTZ.—On Some of the Unusual Effects of Atropine, and the means to counteract them. (*Chicago Med. Journ. and Exam.*, No. 38, 1879.)
- HOWE.—Nine Cases of Transfusion. (*New York Med. Journ.*, No. 29, 1879.)
- MCPHEETERS.—Oxytocic Properties of Quinine. (*St. Louis Med. and Surg. Journ.*, No. 36, 1879.)
- SCHTSCHEPOTJEW.—Selbständige Contraction der Herzspitze, Veränderungen der Muskeln und der weissen Blutkörperchen unter dem Einfluss von Chinin. (*Bonn Arch. f. d. ges. Physiol.*, No. 19, 1879.)
- TESTE.—Du Brôme Contre la Diphthérie, Croup, Angine Couenneuse, etc. (Paris, 1878, J. B. Baillière et fils.)

RUTHERFORD ON THE BILIARY SECRETION OF THE DOG WITH REFERENCE TO THE ACTION OF CHOLAGOGUES.—Dr. Rutherford, assisted by M. Vignal and Dr. W. J. Dodds, has presented to the Scientific Grants Committee of the British Medical Association a series of papers detailing his elaborate researches upon this subject. The first of the third series of these papers is published, *in extenso*, in the *British Medical Journal*, December 1878, and the concluding paper, February 1879. It is not intended to give our readers anything approaching to an abstract of these papers, but merely to make a few remarks that may serve to draw attention to them, as they ought to be read by all. Although the experiments prove that a large number of drugs stimulate the liver to secrete more bile; it cannot be absolutely shown how or why they do this; most probably, however, it is due to a direct action of their molecules upon the hepatic cells or their nerves. All the experiments were made to test the influence of the different substances on the bile-secreting mechanism, the method of observation preventing any observations on the action of drugs upon the bile-expelling mechanism. Every substance hitherto supposed to be a cholagogue has, with the exception of calomel and manganese-sulphate, been shown to have a distinct bile-secreting power. The term cholagogue is necessarily vague, and Dr. Rutherford proposes to give the more definite term of *hepatic stimulant* to those substances which are proved to have the power to increase the secretion of bile. In all the long list of drugs whose effects were investigated, only one, viz., acetate of lead, was found to have a directly depressent effect. It was invariably observed, however, that powerful purgation produced a marked indirect depressent effect as regards bile-secretion. This is due, apparently, either to a drain from the portal blood of bile-forming substances, or to an excessive lowering of the blood-pressure of the liver, or of the system generally, by a large dilatation of intestinal and mesenteric vessels. When, however, a purely intestinal stimulant, as magnesium sulphate, is given, it doubtless depresses the secretion of the bile, not only in

the manner just indicated, but also by hurrying out of the intestinal canal substances which would otherwise have been absorbed, and would have assisted in the formation of bile. This depressant action of purely intestinal purgatives will prove a valuable fact in rational therapeutics. Dr. Stewart's observations upon the value of ammonium-chloride in hepatic diseases do not prove that agent to be a cholagogue or hepatic stimulant; on the contrary, Dr. Rutherford found that the quantity of bile was more or less diminished. The great practical value of the knowledge of the fact that purgatives diminish the secretion of bile deserves to be always borne in mind by the practical physician. Hepatic stimulants should be given before intestinal stimulants, so that the latter may not interfere with the former, but merely remove their results. Nothing effects this more surely than two grains of euonymin, a powerful hepatic, but feeble intestinal stimulant, followed by a morning dose of an ordinary saline aperient. The wonderful results, obtained from large doses of ipecacuan in cases of dysentery, are due to the direct power this drug possesses of exciting the hepatic secretion. The various contradictory statements, hitherto made, as regards the action of calomel are harmonised by the results of Dr. Rutherford's experiments. Larger quantities of bile pass after a dose of calomel, due, not to hepatic but to intestinal stimulation. Mercuric chloride was found to be a true hepatic stimulant. By these experiments and observations Dr. Rutherford claims that "by means of a novel and precise method of investigation, we have been the first to place the whole subject of the physiological actions of drugs on the liver upon a sound footing, and thus to lay a real foundation for the rational—this is, scientific—treatment of many diseased conditions of this important organ".

SMITH ON INHALATIONS OF SULPHURIC ETHER IN LUMBAGO.—Mr. David Smith, in the *British Medical Journal*, February 1879, p. 215, speaks highly of the value of this agent. Being himself, on one occasion, a sufferer from lumbago, and unable to move through pain, he inhaled ether, not to the extent of rendering himself unconscious, but sufficient to feel its full effect in relieving pain. In less than an hour Mr. Smith was able to dress and go his rounds with comfort. Since this experience, he has employed it in many other cases with miraculously good effects.

FARQUHARSON ON EVIL EFFECTS OF ARNICA.—Dr. Farquharson, in a lecture on the various drugs that cause cutaneous irritations during their administration, or external use, published in the *British Medical Journal*, February 1879, p. 223, says, "of all the occasional offenders of this sort against comfort, and even life, is arnica, which is commonly resorted to by the ignorant public as a sovereign remedy for sprains. It is pretty generally recognised among medical men, no doubt, that it now and then produces erysipelatous inflammation of the skin; but book-knowledge of this sort makes little impression, in comparison with the observation even of a single case. Professor Hebra is one of the most persistent and strenuous opponents of arnica, and I well remember his vigorous denunciation of its evil effects, from the text of a very acute inflammation of both hands, for which it was responsible, and where the skin was covered with huge blisters, and almost running into gangrene. A year or two ago, I had the opportunity of seeing a typical case, in the per-

son of an old lady, to whose sprained arm, a non-professional nurse had applied a weak solution of arnica, contrary to my advice. A true erysipelas started from the point of application, and slowly spread all over the body, causing much irritation, discomfort, and depression, and greatly retarding her recovery from what would have been, otherwise, a comparatively trifling injury. . . . My advice to you is, to let this drug take its rightful place among those substances of extinct reputation which still continue to sleep peacefully in the pharmacopœia."

MACKENZIE ON DEATH FOLLOWING A DOSE OF TWO GRAINS AND A HALF OF IODIDE OF POTASSIUM.—Dr. Stephen Mackenzie, in the *Medical Times and Gazette*, February 1879, gives the full details of a case where a syphilitic infant, aged five months, was given a dose equal to two and a half grains of iodide of potassium, and about two grains of chlorate of potash, at 9 p.m. January 3, 1879. About three-quarters of an hour later, the mother noticed the child's face turn black about the mouth and chin, and took her apron to wipe it off. This she was unable to do, and immediately the orbits and lips began to turn black, the discoloration of the face rapidly increasing. The child was then taken to the London Hospital, where Mr. Waren Tay saw the patient on admission, at 12.30 a.m., January 4th. The whole of the face, eyelids and lips were then swollen, and of a purplish-black hue. The buccal mucous membrane normal. There was a large, hard, dark discoloration of the lower lip, with separate dark spots of purpura around. There were a few hæmorrhagic spots on the left arm near the elbow; none elsewhere. "While it was watched, the patches increased in size, until in the course of an hour or so the scalp and face were well covered. Ergot, quinine, and brandy, with milk, were prescribed, but the hæmorrhage increased, extending over forehead and vertex. The conjunctiva could not be seen, owing to the swelling of the lids. The arms and thighs became mottled with hæmorrhagic spots. Temperature was 98°; pulse, 118. In the evening of the 4th, no fresh hæmorrhage had taken place, since the morning. Temperature was 98°; pulse, 128; respiration, 28. January 5th, discoloration in part fading, but the child gradually sank, and died sixty-eight hours after the onset of the purpura."

[A very interesting abstract of a paper by Dr. Fournier, on Iodic Purpura, may be consulted in the *Medical Times and Gazette*, October 1877, p. 445, and a large number of papers, by different observers, upon the peculiar effects following the administration of iodide of potassium, are referred to in the *Medical Digest*, section 263.]

HEATON ON INVOLUNTARY ROTATION OF THE HEAD CURED BY CONTINUED PRESSURE ON THE NECK.—Dr. Heaton reports, in the *British Medical Journal*, February 1879, p. 228, the case of a woman, aged twenty-two years, otherwise in good health, who, for four years, had suffered from tremors of head and right arm. Blisters had cured the movements for a time, but they had returned and increased in severity. On admission, September 27, 1878, into the Leeds General Infirmary, when upright, the head continually rotated about one hundred, to and fro, movements per minute. Considerable force and firm pressure with the hand was required to arrest the movements. When she lay down the movements ceased. Much was done in

the way of treatment without effect, when one day Dr. Jacob discovered that firm pressure with the finger over a spot, a little below and anterior to the root of the ear, immediately behind the angle of the jaw, had the effect of completely arresting the movements. The most speedy and effectual result was obtained by pressure on the left side, but on either side the result could be obtained. This effect was as prompt and complete as the stopping of a machine when disconnected from its motive force; and equally prompt and decided was the return of the movements when the pressure was taken off. Galvanic currents, between the spine and pressure-points, had no effect upon the movements. A properly constructed apparatus was applied, easily concealed by a handkerchief, keeping up, by means of two small pads, constant pressure on the parts described, and on November 30th, she left the infirmary cured. She reported herself in the middle of January 1879, and was able to discard the use of the instrument altogether.

REDENBACHER ON BROMIDE OF POTASSIUM IN CROUP.—In the *British Medical Journal*, February 1879, p. 234, Dr. Redenbacher reports two cases in which this agent apparently produced most valuable results. Two little girls, aged respectively five and seven, were ordered the drug, combined with small doses of bromine. When next seen, the change was most marked, and death, that seemed imminent, was averted. Dyspnoea had passed, expectoration was free, and pieces of croupal membrane were coughed up, perfect recovery following in a few days.

[In the *Medical Times and Gazette*, June 1856, p. 579, a paper by Dr. Ozanam, presented to the Académie des Sciences, is referred to, in which fourteen cases of pseudo-membranous affections, thus treated, were reported. Dr. Ozanam asserted that bromine and bromide of potassium were specifics in such diseases. Dr. Kieffer, in the *LONDON MEDICAL RECORD*, August 1871, also speaks highly of the bromides, not as solvents, so to speak, of the false membranes, but as sedatives to the cerebro-spinal system directly, and as stimulants indirectly, to the nerve filaments and circulatory vessels of the throat.—*Rep.*]

ANDERSON ON THE ACTUAL CAUTERY IN PARAPLEGIA.—Surgeon-Major John Anderson reports, in *The Lancet*, March 1879, p. 366, a successful termination of a case of paraplegia, following the use of the actual cautery. A private of the Inniskilling Dragoons fell while riding, the high cantle of the military saddle pressing on the lumbar spine. Ten days after the accident, he first felt a peculiar numbness and want of power in the lower limbs. A month later, he lost control of the bladder. Four months after the injury, there was complete paralysis of the lower limbs; the left limb had lost all sensation; the right, nearly all. The vesical paralysis was complete, urine dribbling away. No paralysis of rectum. Spine acutely tender, from fourth dorsal vertebra to the tip of coccyx. General health fair. At this time, July 18th, 1877, the actual cautery was applied, to the extent of eight inches in length and two lines in breadth, on each side of the spinous processes. Aug. 8th, sensation in right lower limb improved. Aug. 12, cauterisation repeated. Aug. 16, spinal tenderness much decreased, sensibility greater in right, and commencing in left leg. Aug. 21, sensation good in both limbs, most

acute in right. Patient can move the toes and ankles a little. Aug. 27, has some control over the bladder. Sept. 6, a third application of the cautery was made. Aug. 10, bladder under perfect control if awake, but a little urine escapes when the patient sleeps. Oct. 5 and Jan. 15, the cautery was again applied. He was discharged on furlough, June 29th, and rejoined his regiment, and on Aug. 30th, 1878, was fit for light duty.

BELL ON ERGOTINE SUPPOSITORIES IN UTERINE FIBROIDS.—Dr. Robert Bell, in the *Lancet*, March 1879, p. 367, illustrates the value of this mode of using ergot by the report of three cases. [In the *Medical Times and Gazette*, March 1873, p. 350, is an extract from the *New York Medical Record*, in which Dr. Wey speaks very highly of this plan, and advises the watery extract to be evaporated at a gentle heat on dinner plates, and to be used to the exclusion of ergotine itself, as this preparation is often untrustworthy.—*Rep.*]

THOMPSON ON NIGHT COUGH.—Dr. Reginald E. Thompson calls attention, in *The Practitioner*, March 1879, p. 174, to the value of Joy's cigarettes in this troublesome affection, which appears to be often merely an undeveloped and modified form of asthma.

BLIGH READ ON TREATMENT OF TETANUS BY CALABAR BEAN.—Dr. Reginald Bligh Read, in *The Practitioner*, March 1879, p. 192, reports a case of a lad, aged twelve and a half, who took, in eighteen days, the enormous amount of 707 grains of the alcoholic extract of calabar bean. The largest quantity actually taken in twenty-four hours was $83\frac{3}{4}$ grains. On one occasion he took $7\frac{1}{2}$ grs. in twenty minutes. The relief to the spasms was great, but he died on the 29th day from the commencement of tetanic symptoms, and the eighteenth after beginning the calabar bean, passing away with a gentle sigh, but cheerful and sensible to the last.

SPARK ON ACONITE AS A THERAPEUTICAL AGENT, ESPECIALLY IN THE TREATMENT OF ACUTE INFLAMMATION.—Dr. James S. Spark urges the more frequent use of this valuable agent in a short paper published in *The Practitioner*, March 1879, p. 196. Fleming's tincture is the preparation he advises, beginning with a first dose of 5 m in cases where the temperature is high, although he admits that he has occasionally seen alarming symptoms follow so large a dose. R. NEALE, M.D.

CAVAZZINI ON THE ACTION OF DIGITALINE ON THE CIRCULATION.—The following are the results of the author's observations, which have been published in the *Annales d'Omodei*, 1878, No. 245, page 115.

1. The action of digitaline on frogs is manifested on the heart, particularly on the ventricle, by exciting the muscular fibres in proportion to the dose. 2. One or two drops of the solution, according to the season, accelerate the movement; six to seven will bring on tetanic contractions of the ventricle. 3. The digitaline augments the tone of the cardiac fibres, and lessens the number of the contractions, by reducing them to an infinitely small number. 4. The auricles are hardly, if at all, excited by the digitaline, the systolic contraction is not diminished in the same proportion as in the ventricles. 5. The diastole of the ventricle does not seem to be quickened, but rather subordinate to the action of the muscular

fibres of the auricle. These fibres are often apt to enlarge considerably, which is followed by paralysis, so that it is obvious that they must remain inactive. 6. Some physiologists assert that the myocardium during the systole does not lose the blood which it contains; this assertion is untrue, as is proved from the pallor of the fibres which has often been observed. 7. Digitaline accelerates the peripheric circulation in proportion to the time and the quantity which has been employed for the experiment, the acceleration is due to the increased force of the impulse of the heart. When the ventricular contractions begin to slacken, and the ventricle becomes tetanic, the circulation diminishes first, and then ceases altogether. 8. The capillaries dilate, though not much, and the circulation may be accelerated, provided the drug does not prevent the ventricle from contracting rhythmically during the diastole. 9. It appears from the above that the action of digitaline is principally localised on the heart, and that its action on the vessels is only a secondary one. 10. It seems as if digitaline augmented in the respiratory substance the faculty of absorbing oxygen. 11. The opinion of the Berlin school, that digitaline, when given in small doses, is stimulating, and exciting when in large doses, has not proved to be correct. This drug always stimulates the cardiac energy and dilates the vessels; if given in a toxic dose, it produces tetanus and the rupture of the heart. 12. The action of digitaline may be summed up in the following words; it prevents the cardiac systole from growing too weak, it gives a new impulse to the peripheric circulation by increasing the *vis a tergo*, and dilating the capillaries; and finally it may be found very useful in affections which are complicated with insufficient oxidation of the blood.

SCHORSTEIN ON TREATMENT OF DIARRHŒA BY THE HOT-WATER DOUCHE.—The author advises, in the *Wiener Med. Presse*, No. 49, 1878, the application of a douche of hot water under strong pressure to the umbilical region, in cases of diarrhœa. The temperature is at first 50° , but may be raised to 72° . The duration of the application lasts from three to five minutes; after it the patient takes a hip-bath of 50° to 62° . This treatment is generally repeated not more than twice daily. Dysenteric diarrhœas combined with tenesmus, and dysentery itself, if not inveterate, are treated in the same way. The effect is very rapid, and lasts much longer than opium treatment does; the pain is also calmed very quickly. The author has also found this hot douche answer in cases of colic caused by biliary calculus, many kinds of neuralgia, sciatica excepted, where it was desirable to remove renal calculi and gravel, or long accumulated fœcal matter.

GUBLER ON THE FEBRIFUGAL EFFECTS OF BROMHYDRATE OF CINCHONIDINE, ADMINISTERED HYPODERMICALLY.—The author says (*Journal de Thérap.*, No. 1, 1879) that cinchonidine contains in a very high degree the febrifugal properties of quinine, while the bromhydric acid imparts to the salts greater sedative properties, and diminishes their tendency to poisoning. The bromhydrates of cinchonidine are specially harmless to the subcutaneous cellular tissue. Acid bromhydrate is preferable to neutral-bromhydrate, because it dissolves more easily. A solution of dibromhydrate of cinchonidine, in the proportion of one to five is stable, and sufficiently concentrated, and an injection of one cubic centimètre of this solution, which contains two decigrams of the

active principle, if repeated twice daily, has the same effect as one to two grammes of sulphate of quinine taken by the mouth.

CYR ON THE INFLUENCE OF MEDICINAL AND TONIC SUBSTANCES IN PRODUCING GLYCOSURIA AND DIABETES.—According to the author's opinion (*Bull. de Thérap.*, December 1878), arsenic, phosphorus, and mercury may cause persistent diabetes. Substances which are more diffusible, such as alcohol, ether, chloroform, even if used for a long time, do not seem often to produce this disease, but if it should come on, the author would attribute it to the effect of one of these substances on the nervous system. The same remarks are applicable to the abuse of certain drugs which act especially upon the nervous system, such as opium, strychnia, curare, and also bad beer, or when this disease supervenes in horses which have been fed with wet oats. Carbonic oxide may also cause glycosuria. In the latter part of the article the author speaks of telluric poison as a certain cause, not only of glycosuria but also of diabetes; this latter affection may be attributed directly to glycosuria and indirectly to the disturbing effect of the telluric poisoning upon the chylipoietic apparatus.

SIEFFERMANN ON A CASE OF ANEURISM OF THE HEART TREATED HYDROTHERAPEUTICALLY.—(*Gaz. Méd. de Strasb.*, February 1, 1879.) The patient, aged 25, presented all the symptoms of a cardiac aneurism. The dulness at the base of the heart was normal, the right ventricle did not appear to be abnormally enlarged, but the dulness of the left ventricle was much extended in all directions, and formed towards its base a tumour which reached almost to the last left floating rib. There was no arching. A continuous purring thrill could be heard over the dulness, being especially loud in the middle. The pulsations of the heart were feeble and irregular. The impulse of the arteries was hardly perceptible, and about 100 a minute. The heart sounds could only be heard at the base of the organ; they were not accompanied by any blowing noises. The patient would become breathless after the least exertion. He was for two months put under hydrotherapeutic treatment, beginning with shower-bath, under very little pressure, all over the body. The pressure was gradually increased, and the stream allowed to play directly on the cardiac region. The patient remained under this treatment for two months, and left the establishment feeling much better and stronger. The purring sound could still be heard at a distance of about four inches from the lowest left floating rib.

DUBOIS ON TREATMENT OF NEURALGIA BY HYDROTHERAPY AND ELECTRICITY COMBINED.—(*Thèse de Paris.*)—In treating neuralgia by electricity, it is best to use the descending current, *i.e.*, the current going from the nerve centre to the periphery. This is less painful, especially if only a moderate number of elements, from thirty to forty, is used. The only general rule which can be established on this subject is, never use more elements than can be borne by the patient without pain. It is better to begin with a weaker dose, and to increase it subsequently, than to run the risk of injuring instead of benefiting the patient. As for the mode of application, M. Dubois recommends that after the sponges have been wetted, the positive pole be applied to the central end of the nerve, and the nega-

tive to its peripheric end, or to one of its painful spots. They are then allowed to remain in the same spot for from five to ten minutes, so as not to break the circuit. In order to prevent the electric shock and spare the patient a very disagreeable sensation, it suffices to move the sponges gently towards each other along the skin, and not raise them before having brought them into contact with each other. This proceeding is said to cure all cases of recent neuralgia. Patients suffering from chronic forms must be treated by combined electricity and hydrotherapy. This is, *e.g.*, the method generally used in cases of tic-douloureux and sciatica: for the former affection the positive pole of a continuous current is placed on the infra-orbital foramen, and the negative pole on the superior cervical ganglion, then a current of about twelve elements is allowed to pass through from seven to ten minutes. The hydrotherapeutic treatment which is applied the same day consists, unless contra-indications exist, in a hot-air bath, which is followed by a cold shower bath lasting two minutes. In sciatica the following treatment has proved most successful in a case where the patient had been suffering for two years, without being able to obtain any relief. In the morning the hot-air bath was given, and followed on alternate days by a cold shower bath, a Scotch shower bath being given on the other days. At night the continuous current was applied, applying the positive pole to the lumbar region, and the negative, first to the nates, then to the popliteal region. This was done daily for ten minutes; twenty-five elements were used. The patient was better in ten days, and quite well in a month.

COMEGYS ON SCIATICA AND NEURALGIA CURED BY HYPODERMICS OF ETHER.—C. G. Comegys, M.D., writes to the *Cin. Lancet and Clinic*, Jan. 4, 1879, that he has recently made further tests of the treatment of sciatica and neuralgia by hypodermic injections of ether. An injection of thirty drops repeated twice, at intervals of twelve hours, cured a violent neuralgia of the branch of the circumflex nerve of the right shoulder which accompanies the long head of the biceps into the joint. Constitutional treatment in this case did but little good and did not cure, while the ether seems to have produced almost immediate relief. The Doctor concludes that "it may now be considered as a settled fact that the use of ether hypodermically is a safe, speedy, and certain relief for sciatica, tic-douloureux, coccy-dinia, and allied local neuralgias".

BONNEFONTAINE ON CREOSOTE IN PHTHISIS.—Dr. Bonnefontaine (*Union Méd.*, March 11, 1879) has found that consumptive patients who are rather fanciful concerning their food and medicine will easily take creosote in the shape of Dartais' capsules. These are very small globules containing each about five centigrammes of creosote, and quite tasteless. The drug must be taken three times a day, before every meal, in doses of three globules each time, and followed by a cup of chocolate or milk, a glass of wine, or some soup.

MOUTARD-MARTIN ON COMPRESSED AIR-BATHS IN WHOOPING-COUGH.—The author says (*Union Méd.*, March 11, 1879) that compressed air-baths are very efficient in every stage of whooping-cough. He has treated three patients, aged respectively seven, twelve, and fourteen, with compressed air in the incipient stages of the affection, and in every case it assumed a mild form, and did not last long.

PATHOLOGY.

RECENT PAPERS.

- LAWIS.—Flagellated Organisms in the Blood of Healthy Rats. (*Quarterly Journ. Micros. Science*, No. 19, 1879.)
- POLLITZER.—Die Entstehung der Gefahr im Krankheits-Verlaufe. (*Wien. Med. Presse*, No. 20, 1879.)
- PORTER.—*Post Mortem* Emphysema. (*Philadelphia Med. and Surg. Reporter*, No. 40, 1879.)
- VENNEMAN.—Les Bactéries. (*Journ. de Sc. Méd. de Louvain*, No. 4, 1879.)
- WORKMAN.—The Theory of Germs, and its application to Medicine and Surgery, by Pasteur, Joubert, and Chamberland. (*Canada Lancet*, No. 11, 1879.)

PERIARTERITIS NODOSA.—In the first number of Virchow's *Archiv*, Kussmaul and Maier published an account of what they believed to be a "hitherto undescribed peculiar affection of the arteries", to which they gave the name of Periarthritis Nodosa. Their patient was a young man, who, after a somewhat irregular life, was attacked by indefinite illness, the principal symptoms of which were increasing chlorotic marasmus, albuminuria, and progressive general paralysis with muscular pains. On *post mortem* examination they found diffuse infarction of the kidneys, with extensive ulcerating enteritis, and wide-spread granular degeneration of the voluntary muscles; but the most important appearance was a peculiar thickening of the small arteries, usually circumscribed so as to resemble small knots. The branches as large or less than the coronary arteries were principally affected, in the heart, intestine, stomach, kidneys, spleen, and voluntary muscles; in the liver, cellular tissue and the branches of the brachial and phrenic arteries the lesion was less marked. In consequence of this affection the lumina of the vessels were dilated into small aneurisms in some places, in others narrowed, and there was considerable obstruction to the circulation, so that the changes in the kidneys, intestine and muscles, clearly were secondary to the disease of the circulatory apparatus. In a recent number of the same periodical Dr. P. Meyer describes a very similar case. A sergeant in the army, aged 24, of rather dissipated habits, but who had previously enjoyed excellent health and was of a robust constitution, acquired gonorrhœa and a chancre in the autumn of 1876, followed by constitutional symptoms in January 1877, for which he was treated by inunction. From this time he never regained his former health, but always remained pale and thin; in August he complained of pains in the neck, loins, and calves of the legs, accompanied by fever and abdominal pain, for which he was admitted. His conjunctivæ were yellow, his pulse and temperature were high, he sweated profusely; there were no physical signs of disease in internal organs. In September, his ankles became œdematous, and in October, albumen appeared in his urine. His chief complaint was of abdominal pain, and there was a small quantity of ascites present. He died rather suddenly on October 22, and at the *post mortem* examination conditions were found very like those in Kussmaul and Maier's case, with the exception of the ulceration of the intestine, which was absent. The size of these nodules varied from a poppy or hemp seed, the usual dimensions, to being occasionally as large as a bean. The affection was less marked in the extremities, and apparently entirely absent in the brain. The larger

vessels, the aorta, carotids, etc., were quite healthy. On microscopical examination, these small nodules were found to be aneurismal sacs communicating with the lumina of the vessels, and with thin walls formed of a delicate connective tissue of recent growth. Some of them were obliterated and filled with completely organised thrombus. The nodules were generally situated at the points of division of the vessel. The connective tissue in the immediate neighbourhood was thickened, very fasciculated, and many capillary vessels could be seen in it. As the artery entered the nodule it became dilated and fusiform. The media and interna could be distinguished at first, but after a short distance the whole vascular wall presented the appearance of a bright homogeneous membrane. When the fenestrated membrane was still recognisable, muscular fibres on its outer side presented this shining appearance, which suggested the notion of amyloid degeneration, but iodine and methylaniline gave negative results. In some cases the change from the normal arterial wall to the homogeneous shining membrane was quite abrupt. Another peculiarity was that the lesion was not always circumscribed, but sometimes so diffused as to convert a small branch into a stiff yellowish white cylinder. Dr. Meyer believes the disease commences in the adventitia and next involves the media, which gives way. Hyaline masses, sometimes seen in the lumina of the vessels, he regards as derived from the endothelium of the interna. Multiple aneurisms have been described by Virchow in the pia mater, by Baerensprung in the skin; MM. Charcot and Bouchard's observations on miliary cerebral aneurisms are well known; but these differ from the cases now under consideration, by their restriction to a special organ. Cases of multiple aneurism distributed throughout the body have been placed on record by Pelletan, Rokitansky and Weichselbaum. Pelletan's case is given without details; he apparently knew nothing of the clinical history. Weichselbaum's case is very similar to the others here alluded to; it is to be found in the *Allgem. Wiener Med. Zeitung* for 1877, No. 28. According to him, the affection commenced by endarteritis, and he regarded the case as syphilitic, relying entirely upon Heubner's position that syphilitic endarteritis has characteristic anatomical appearances. We know now that this is a mistake. It is not at all clear what is to be considered the true etiology of this affection; all the cases were in young men; two of them had led dissipated lives, and had probably drunk too much; one certainly had had syphilis. Dr. Meyer thinks the abuse of alcohol may have directly caused such an increase of blood-pressure as to lead to changes in blood vessels predisposed to disease by the cachectic state of the individual, whether syphilitic or otherwise. The other point of interest in the cases was the striking resemblance of the symptoms to those of acute trichinosis. Kussmaul and Maier noticed this, and even thought it possible that the aneurisms might have a parasitic origin, suggesting the name *Aneurysma verminorum hominis*. There seems to be no ground whatever for such a hypothesis, and the resemblance in the symptoms is properly explained by the localisation of the affection in the muscles in both diseases; in both there is more or less disturbance of the nutrition of the muscular substances, with more or less permanent inflammatory change resulting.

LUBIMOW ON GIANT-CELLS IN TUBERCLE.—Dr. Lubimow states (Virchow's *Archiv*, Band lxxv,

Heft 3, p. 71), as the result of his investigations, that giant-cells are independent formations, like other cells, and develop out of a cell by increase of its protoplasm, and multiplication of its nuclei. Their origin is, first, in tubercular peritonitis and tubercular lymphatic glands inside the lymph vessels, and more precisely in their proliferating endothelium. Secondly, in tuberculosis of the testis and in organs composed of connective tissue and gland tubules, they originate in the epithelial cells of these tubules on the one hand, and in the connective tissue corpuscles or the endothelium of their walls on the other.

THE HISTOLOGY OF TUBERCLE.—Baumgärten (*Centr. bl. f. die Med. Wissenschaft.* March 30, 1878) has already drawn attention to the constant presence of a granulation tissue, containing epithelioid and giant cells around ligatures placed on vessels, but he could not recognise nodules analogous to those of tubercle. More recently, he has observed around foreign bodies, such as bits of hair, cotton fibres, and the dust which settles in all operative wounds, true tubercular giant cells; there is the same typical disposition of the nuclei at the periphery, the same protoplasm with its dark granules; the cells are sometimes isolated, sometimes surrounded by round or oval collection of lymphoid cells, often surrounded by a reticulum; no vessel could be recognised. No distinction could be drawn between their appearances and those of tubercle, but the growth showed no tendency to caseation or dissemination.

TUBERCULOSIS OF THE THYROID BODY.—Chiari (*Med. Jahrbücher von Stricker*, Heft 1, p. 69, 1878) says that tuberculosis of the thyroid body is not uncommon, but it is always secondary, and develops in the course of general tuberculosis, as a rule, in the acute miliary form of this disease. He found it in seven out of 100 tuberculous patients examined for the purpose. Sometimes the tubercles were miliary, sometimes in the form of caseous infiltration; the growth was situated in the periacinous connective tissue, the epithelium of the acini undergoing fatty degeneration, the result of pressure by the new growth.

THE MORBID HISTOLOGY OF HYPERTROPHIC CIRRHOSIS OF THE LIVER.—D. Ludwig Brieger (*Virchow's Archiv*, Band lxxv, Heft 1, p. 85), with reference to the views of Charcot and Gombault (*vide LONDON MEDICAL RECORD*, 1870, p. 385, and 1879, p. 18) on the presence of a network of biliary canaliculi around the lobules as characteristic of the form of cirrhosis described by Hanot as *cirrhose hypertrophie avec ictère*, and by M. Charcot as biliary cirrhosis, admits that these appearances are present in livers cirrhotised in consequence of obstruction to the common ducts, but states that he has found them present also in alcoholic cirrhosis, in the cirrhotic livers of tuberculous patients, and in some forms of nutmeg liver.

ROBERT SAUNDBY, M.D.

JACQUET ON THE PATHOLOGY OF ADDISON'S DISEASE.—In the *Archives de Physiologie Normale et Pathologique*, 1878, Nos. 5 and 6, M. Jacquet arrives at the following conclusions: 1. In Addison's disease, the bronzed skin one finds only as a lesion of the sympathetic system, pigmentation without atrophy of the nervous cells of the ganglia which are in the neighbourhood of the diseased

suprarenal glands. 2. The degeneration of a part of the nervous fibres attaching the same lunar ganglia to the nervous centres ought to be regarded as secondary and consecutive to the process of sclerosis which accompanies the tuberculation of the capsules. 3. That lesion is insufficient to serve as the basis of a pathogenic theory of Addison's disease. 3. Hyperpigmentation of the nervous cells of the great sympathetic and of the cerebro-spinal system is a fact of the same order as the hyperpigmentation of the epidermic cells of the Malpighian plexus. 5. This hyperpigmentation renders probable the existence of an alteration of the blood by the substances which a suprarenal gland would, in the normal state, be employed in utilising by transforming them. 6. The alteration of the blood by functional or organic insufficiency of the suprarenal glands is a pathological phenomenon analogous to that which exists in chronic uremia. 7. Alongside of the melanoderma, by alteration of the suprarenal tissue, there seem to exist cases in which the melanoderma is due to the lesion of other blood-making organs. 8. Clinical researches in Addison's disease ought especially to be directed to the chemical analysis of the blood and the urine.

WOODS ON THE PATHOLOGY OF TETANUS.—Dr. G. A. Woods (*Lancet*, January 1879), reports one case, most carefully studied by himself, and collects the results of eighty-one cases from other observers. From this mass of facts, he concludes that tetanus is a disease which may be produced by several causes. Either cause may lead to the following changes: 1. Enormous dilatation of blood-vessels in the medulla, particularly in the neighbourhood of the hypoglossal and pneumogastric nuclei, and in the spinal cord, especially around the central canal and the portion nearest the seat of injury—the part in which colloid bodies are usually noticeable. 2. Leucocytal infiltration in the same regions, much more uniformly distributed than in hydrophobia. 3. Granular and subsequent changes, the result of malnutrition, most noticeable in the posterior columns, and varying according to disease duration. *a.* This condition is associated with an exalted action of the ganglionic cells, originating in a point of the cord nearest the seat of the injury, and extending upwards towards the medulla—the central seat of bilateral reflex action. *b.* The blood destined to supply the rapid ganglionic metamorphosis in the medulla, is altered either in quantity or quality, or in both. *c.* The ganglionic cells of the medulla not receiving their proper blood nutriment in proper quantity or quality, can no longer supply that nutritive force which is so necessary for the proper and healthy performance and maintenance of its vital functions.

REVIEWS.

Animal Chemistry, or the Relations of Chemistry to Physiology and Pathology. By CHARLES T. KINGZETT, F.C.S. London: Longmans and Co., 1878.

THE present work supplies a decided want in medicine. There is no good English text-book on the subject of recent date, so that it is, therefore, doubly welcome; and although there are many grave faults in Mr. Kingzett's treatise, yet he is deserving of great praise for the good work he has done. The labour

has evidently been considerable, judging from the number of authorities quoted, and we are glad to find that the author has exercised much discretion and judgment in his selection of materials; not, however, that we always agree with him, as we shall afterwards point out, in his choice. Very many papers of great merit, in our opinion, have been entirely overlooked or neglected, while others of doubtful value have been inserted. That he is a good practical chemist we do not deny; but we must say he frequently shows ignorance or imperfect acquaintance with much in physiology, microscopic anatomy, and medicine. He is therefore but imperfectly fitted to undertake such a work as a manual of "Animal Chemistry for medical men". In his own introduction he criticises the teachers of physiological chemistry, and the text-books on the subject, very severely. "The teachers", he says, "are to a large extent incompetent to fulfil their task. From text-books and teachers medical students do not learn scientific principles. Most of the text-books at home and abroad are the merest compilation of facts—no philosophy in them—devoid of connecting principles." So far as the teachers are concerned, we shall say nothing; but we feel greatly disposed to class Mr. Kingzett's book, in parts at least, with those he himself scorns so much. There is an amount of egotism about what he says that is truly admirable, were it not at the same time somewhat ridiculous. Could any person sound his own horn better? Thus begins his preface: "For four years I was occupied with the practical study of subjects comprehended in the following chapters, and during that time there were no fluctuations in the success attending the labours in which my services were involved." We have known distinguished chemists who were engaged on the same pursuits for four-and-twenty years and more, and yet never said so much for themselves. His philosophy, too, were it to be judged of by his chapter on the nature of character, would, we much fear, be regarded as anything but deep; yet if he is to be believed, philosophy and connecting principles are his strong points. In language more befitting a debating forum than a scientific treatise he advocates the casting aside of jealousy, prejudice and partiality; but we do not remember reading a book of the kind animated so much by these very "connecting principles". And now that we have alluded to his language we might as well refer here to the very loose and slipshod English frequently seen throughout the pages of his book; and the want of accuracy displayed from time to time detracts much from its value. Let us quote a few examples: "As the food arrives in the stomach it is further mixed with various fluids and secretions, including gastric juice, bile, pancreatic juice, and so on (!), and here digestion partly occurs; it is completed in the smaller intestine." A wonderful gastric digestion truly. "Bile on the stomach", as it is commonly termed, is not generally looked on as an aid to the digestion in that organ. Some strange regurgitation must surely have occurred! Typhus, according to Mr. Kingzett, originates in the intestine, and is attended by serous evacuation; the cornea is cartilaginous; the cement of teeth is a hardened epithelial structure containing 4 per cent. organic matter; the term fat cell is regarded as synonymous with sebaceous follicle; lymph and transuded serum are the same; oxidation in the lungs is the source of muscular force, and the mechanical force of muscle is directly due to a cerebral power; and the death of bioplasm results in the production of tissue!

We believe, with the author, that a large number of the substances found in the body are of huge molecular proportions and do not admit of any reasonable classification; but we go still farther, and doubt very much many of the formulæ given. The state of organic analysis is not yet sufficiently advanced to enable highly complex bodies to be analysed with the accuracy required to deduce their exact formulæ; and there is the further difficulty of obtaining such bodies pure. Fancy such a formula as this for hæmoglobin: $C_{800}H_{900}FeN_{154}S_2O_{177}$.

While many of the methods given for the preparation and separation of bodies are good, a few are bad or incomplete. Take for instance the method recommended for the preparation of glycogen, which is certainly defective. As to the statement that "glycogen may be precipitated from the concentrated aqueous extract of liver by means of glacial acetic acid", it is erroneous.

The section on digestion is far from perfect, and this is particularly so with that occurring in the intestine. We hear little or nothing of the work of Brücke, Meissner, or Kuhne on the peptones; no mention either is made of choleletin under bile, but we read that the bile causes a precipitate of peptones which are altered or absorbed (!) by the digestive influence of intestinal juice. Muscle also is very incomplete, and so is the morbid alteration of urine in disease.

Having said so much in the way of fault-finding, let us now turn to a much pleasanter task—that of indicating the nature of the work itself, and of according to it the praise it really deserves. The first part of the *Animal Chemistry* is general and introductory, and refers to the early state of the science, and of life from a chemical point of view. Part ii deals with digestion, and of the organs and fluids concerned in the process. Much of this is admirable, and the chemistry of bile and glycogen is well given. Nutrition, or Work and Waste (Part iii), is also very ably treated; but by far the best in the book is Part iv, which consists chiefly in the chemical constitution of the brain. Part v includes the chemistry of the albuminous principles, carbohydrates and fats; the Pettenkofer reaction, fermentation, and the physiological action of chemical substances.

We cannot do more than make a few references, and give a few extracts.

So little is known of the function of the spleen that it may be interesting to give the results of Schiff's experiment of extirpation of that organ. He found that after this operation no permanent influence was produced on the relative or absolute quantity of the pale or coloured corpuscles of the blood; and he is of opinion that during gastric digestion the spleen prepares a ferment which is conveyed by the blood to the pancreas, and there transforms an albuminous substance into trypsin—a body capable of digesting albumins; an action, however, that is lost after the removal of the spleen.

We learn that a close relationship exists between certain bile compounds and the fatty acids on the one hand and certain benzene derivatives on the other. Thus cholic and choloidic acids, dyslysin and cholesterolin, yield cholesteric acid as an oxidation product. Choloidic acid also yields other products similar to those given by oleic acid; and they all give the Pettenkofer reaction.

The origin of glycogen is still a subject of controversy. Wolffberg considers it an intermediate decomposition product of albumen in the organism. In connection with this view it is interesting to bear in

mind that the liver produces bile by the decomposition of albumen; and that certain albuminoids, such as chondrin, yield glucose when acted on by hydrating agents. Forster finds that the injection of sugar increases glycogen, but he regards the increase as brought about by an increased destruction of albuminoids. It is a question whether the glycogen is formed directly from the bodies purposely introduced to increase it; or that these latter bodies contribute only indirectly by being themselves oxidised, and thus protecting the glycogen. Mering finds that the assimilation of grape, cane, fruit, and milk sugars, inulin, lichenin, glycerine, arbutin, gelatin, and albuminates, produces a considerable accumulation of glycogen in the liver. But inosite, mannite, quercite, erythrite, and fats failed to do so.

The liver contains certain active ferments. According to Tiegel, the blood corpuscles undergo disintegration in this organ, and yield a ferment which transforms starch into sugar; but Wittich extracts a similar ferment from serum and from bloodless parenchyma of liver: so it appears to be formed in the cells, and is partly poured out in the bile. The liver itself, when minced and suspended in water, ferments and evolves carbonic acid and hydrogen; and the fermentation is independent of micrococci and bacteria.

The author is of opinion that not a single proof has yet been brought forward in favour of the assumed identity of the colouring matters of blood, bile, and urine.

The oxygen contained in the blood is determined by Schützenberger and Risler by adding to a given quantity an excess of standardised sodium sulphite and estimating the excess in an atmosphere of hydrogen. Fresh ox-blood shows an oxidising power equal to 45 per cent. oxygen; whereas, when it is determined by the air pump, or by carbonic oxide, it shows only 19 per cent. Bert's researches are full of interest. Compressed air and oxygen act as poisons upon animals, oxygen acting as a rapid poison when the arterial blood contains 35 per cent. (by air pump). The convulsions and death are due to an exaggerated excito-motor activity of the spinal cord, and are accompanied by a considerable loss of heat, owing to hindered oxidation.

Pflüger believes the living cell regulates the amount of oxygen consumed, and is opposed to the theory that oxygen exists as ozone in the blood.

The chemistry of certain of the so-called extractives has advanced greatly of recent years. Many of them can now be prepared synthetically, while the relations and constitution of most of them are no longer mere riddles. Kreatine, one of these bodies, a product of muscular change, appears to become changed into urea and kreatinine in the blood; boiling it with strong acids gives kreatinine; with baryta water, sarcosine and urea; with mercuric or plumbic oxide, methyluramine oxalate—a body that may be regarded as the residue of a compound, urea methylamin. Sarcosine, again, may be regarded as methyl-glycocine, glycocine being amido-acetic acid, yielded by one of the biliary acids, glycocholic, and readily prepared by boiling gelatin with sulphuric acid. Uric acid appears to be a cyanuretted derivative of glycocine, and urea can be obtained from it by oxidation, while by a process of deoxidation are obtained xanthin and hypoxanthin. Hippuric acid also, which is changed in the organism into benzoic acid, may be regarded as benzoyl glycocine, or amidated benzo-glycholic acid.

These are the author's opinions as to the urinary

colouring matters. *Urobilin* of Jaffé is not an original constituent of urine, but seems to be produced after the urine has stood some time. *Omi-chyl oxide* (Scharling) is a secondary product. *Urvetrythrine* (Proust's rosacic acid) is obtained from lateritious deposits, and chiefly occurs in the urine of acute rheumatism, pericarditis, pneumonia, and liver diseases. *Urohamatine* (Harley) is a red colouring matter, so called from its ash being said to contain ferric oxide. *Urochrome* (Thudichum) is regarded as the chief or exclusive colouring ingredient. It appears to possess an alkaloidal constitution, being precipitated by phospho-molybdic acid, and is decomposed by boiling with acids into uromelanine, uropittine, and omicholine.

The chemistry of the brain is given in full detail, and constitutes a special feature in the volume. The author speaks in this modest way of certain researches carried out by himself and Dr. Thudichum, under the auspices of the Privy Council: "In fact, it is not too much to say that at no time in the history of this or any other country, has such an extended and fruitful research been conducted in the domain of physiological chemistry."

In a short preliminary sketch of brain chemistry, the work done by Vauquelin, Couerbe, Fremy, Gobley, Müller, etc., is summarised. The plan of analysis adopted by Thudichum is then given, in which, by repeated extractions of brain substance by means of alcohol and ether, it is split up into an albuminous framework; phosphorised and nitrogenous fats—the kephalines, myelines, and lecithine; cholesterine, and a group of nitrogenous substances (cerebrines) resembling glucosides; and watery extractives. The phosphorised principles are regarded as built on a common type,—that of glycerophosphoric acid, $C_3H_5(OH)_2OH(OPO)OH$, in which the first two hydroxyls are replaced by the residues of fatty acids, while one of the hydroxyls of the phosphoryl is substituted by an ammonium base.

Much more has yet to be done, however, in the chemistry of nerve substance before the kerasines and phrenosines, and such bodies, can be completely accepted as normal organic compounds.

The brain substance acts as a sort of colloid septum with great mobility, its principles presenting very wide affinities and powers of combination. Nerve matter must, therefore, yield obedience to every external chemical influence reaching it from the blood, and take up whatever metal, salts, or alkaloids, that may be thus presented to it.

Beside the biliary acids, we learn that oleic acid, cholesterine, lecithine, myelines, benzine, salicylic acid, etc., give the Pettenkoffer reaction; and that the same colour reaction is given by cerebrins, salicin, cod-liver oil, etc., with sulphuric acid alone.

We must conclude our sketch by noticing the chapter on the physiological action of some organic bases. A distinct connection exists between chemical constitution and physiological action. On comparing the action of such bases as chinoline, conia, nicotine, etc., it is to be observed that, apart from differences in chemical structure, the physiological activity is greater in the bases containing the most hydrogen. As a rule, the physiological action seems to become more intense as the molecular complication increases, and varies with its stability. The more complex the molecule, the more intense and prolonged is its action; and the less stable it is, the more intensely will it act. All chemical substances introduced into the body act upon it either physically or chemically; some bodies act in both ways. Un-

saturated compounds are the most energetic, and it is among such bodies that we find the most physiologically active bases. These substances may act by direct removal of oxygen from the blood, and consequent interference with oxidation; by combining with hæmoglobin, and consequent interference with its function as an oxygen carrier; by combining with effete materials, thus increasing the difficulty of their excretion; by withdrawal from the living tissues of matters essential to their healthy functions; or by combining with living tissue, and, consequently, interfering with normal functions.

The difference in chemical constitution appears materially to affect the physiological activity; but we find, also, that bodies having the same constitution, only containing the same elements in different proportions, differ in the degree of their activity on the organism. This is well seen when the alcohols are compared; the higher we rise in the series the greater is this activity. Rabuteau was even led to conclude that the physiological activity increases with the atomic weight.

In conclusion, we agree with the author in believing that scientific chemists will find his volume very useful as a guide to them in their researches.

T. CRANSTOUN CHARLES, M.D.

School Life and its Influence on Sight and Figure.
Two Lectures. By R. LIEBREICH, Consulting
Ophthalmic Surgeon to St. Thomas's Hospital.

In the first of these two lectures, which are as admirable for their simplicity as for their thoughtfulness, "those changes in the functions of the visual organ which are immediately developed under the influence of school life", are treated of as distinguished from the diseases of the eye commonly met with in childhood.

School life is shown by the writer to produce the three following defects of vision.

1. Decrease of range.
2. Decrease of acuteness.
3. Decrease of endurance.

In regard to the first of these, *myopia*, the author states that statistical inquiries prove that school-life is (*par excellence*) the cause of shortsightedness, which is developed almost exclusively at this period; they also show that the percentage of myopic children is greater where unfavourable optical conditions prevail.

Another important consideration is then brought forward, namely, that shortsightedness "has an injurious effect on the general health by inducing a habit of stooping". Its increase, therefore is, from a national point of view, to be regarded as a serious evil for these two reasons, especially now, when England is extending the benefits of school education so widely.

In regard to the second defect, decrease of acuteness, or *amblyopia*, it is pointed out that it is often produced at school "by unsuitable arrangements for work which disturb the common action of the two eyes and weaken that eye which is excluded from use."

The third defect, *asthenopia*, decrease of endurance of vision, is stated to have two causes; one a congenital condition, *hypermetropia*; the second, a disturbance in the harmonious action of the muscles of the eye, generally produced by unsuitable arrangements for work.

The author then sketches the conditions of school-life which give rise to these three defects of vision, and the *rationale* of their action on the scholar.

Briefly, they are: 1, insufficient, or ill-arranged light; 2, wrong position of the body during work. The first obliges us to lessen the distance between the eye and the book while reading or writing; the second condition is brought about if the desks or seats are not in the right position, or of the right shape and size.

"When the eye looks at a very near object, the accommodating apparatus, and the muscles which turn the eye so that the axes converge towards the same object, are brought into a condition of greater tension, and this is to be considered as the principal cause of myopia and its increase."

"If the muscles of the eye are not strong enough to resist such tension for any length of time, one of the organs is left to itself; and, whilst one eye is being directed on the object, the other deviates outwardly, receives false images, and its vision becomes indistinct and *amblyopic*." Or, perhaps, the muscles resist these difficulties for a time, become weary, and thus is produced the diminution of endurance, or *asthenopia*.

The remedies for these defects are briefly as follows: sufficiently strong light falling from the left hand side and from above; the children ought to sit straight, and not have the book nearer to the eye than ten inches at least; the book should be raised to an angle of 20 deg. for writing, and about 40 deg. for reading.

The defects of most English schools in want of conformity to these conditions are then pointed out, and suggestions for their remedy offered, both as regards lighting, and furnishing with suitably constructed desks and seats, plans of which are given. This portion of the lecture deserves special attention.

"The injurious effects which the crooked and stooping position of children in schools has upon their health, in particular on the lungs, abdominal viscera, figure and sight, have lately excited much attention amongst physicians", producing a long series of works. In these, an almost unanimous opinion is expressed as to the causes of the unhealthy posture assumed by the children, viz., that they are due to defects in the furniture of the school-room.

The faults may be summarised as follows:

1. Want of, or unsuitable backs for seats.
2. Too great a distance between seat and desk.
3. Disproportion; generally too great a difference between height of seat and desk.
4. Wrong form and slope of desk.

Pointing out the manner in which such defects in the furniture of the school-room act injuriously on the spinal column and abdominal viscera, etc., the author discusses in detail the shapes and sizes of the benches, desks, chairs, etc., that ought for the future to be used in all schools; this part is further elucidated by diagrams on a scale.

In Lecture II we have merely an enlargement of the question already briefly considered in the first pamphlet, namely, the effect of school-life in its influence on the spine. The author here expresses his conviction that the frequency of scoliosis or lateral curvature, has its principal origin in the position in which children sit during their school time, especially while writing. Space will not allow us to follow all the author's arguments; but we may say, that he supports this view by careful reasoning based upon anatomical and clinical facts, and in a way that shows the wide philosophic mind, and experienced clinical observer.

ARTHUR E. BARKER.

A Manual of Necroscopy; or Guide to Post Mortem Examinations. By A. H. NEWTH, M.D. London: Smith, Elder, and Co. 1878.

We have much pleasure in recommending this unpretending little work to the notice of the profession. It is a collation from the various authorities on pathology of the morbid appearances which may be seen *post mortem*. Directions are given how to perform the various dissections; these, though perhaps not in every case the best to show the structure, are evidently chosen as being the readiest. The matter is well arranged, and any subject can be referred to, even without the aid of the index, with great facility.

The part given to medico-legal enquiries is a concise epitome of nearly all that is required to be remembered at a *post mortem* examination. There is a tolerably complete glossary of pathological terms, and a very copious table of contents and index. Altogether, the book is designed to meet the wants of a man whose time is too much occupied to search through large and various treatises for explanations of pathological appearances, or what may be expected to be found in special diseases, accidents, poisonings, etc. We believe the work is thoroughly trustworthy, and every practitioner will find it a valuable addition to his library.

An Elementary Treatise on Gynecological Surgery. By Dr. A. LEBLOND, Médecin Adjoint du St. Lazare. Paris: Lauwereyns. 1878.

This work, although it is modestly entitled "elementary treatise", forms a complete and careful exposition of the more recent surgical advances made by French, English, American, and German gynecologists. The subject matter is admirably arranged under three headings. In Part I the modes of exploring the genital organs are described in detail. Part II discusses the minor surgical procedures; such as intra-uterine indications, the mechanism of pessaries, and dilatation of the urethra. In the third part, the operations for restoring lacerations of the perinæum, practised by Thomas, Emmet, and Demarquay are fully detailed and illustrated. The chapter on amputation of the neck of the uterus is one of the best in the book. The author figures and describes a speculum he has devised to facilitate the noosing of the cervix with the platinum or other wire. As might be expected in a French work the method of performing ovariectomy adopted by M. Péan is the one to which prominence is given. Dr. Leblond displays an extensive acquaintance with the foreign contemporary literature of his subject, and in this respect sets a good example to his countrymen. We are, therefore, somewhat surprised to find Emmet's operation for restoring lacerations of the cervix uteri unnoticed. The work forms a volume of 658 pages, and contains 281 figures, many of which are original. It is enriched by some excellent anatomical drawings by Tarnier and Chantreuil.

FANCOURT BARNES, M.D.

Klinik der Gelenkkrankheiten. By Dr. C. HUETER, of Greifswald.

It would really be difficult to imagine a more complete treatise on the subject of joint affections than that now before us. Whether we consult it for anatomical, pathological, or clinical details, we are alike struck by the profound knowledge of his subject which the author displays, by his wide views, and by his

clearness of expression. The literature of Europe and the West has been ransacked, not only for clinical facts, but for representative views, so that the work before us may be said to mirror, as nearly as possible, the aggregate of surgical opinion on the subject of diseases of the joints. And, although the work is a large one, it is more free than usual from that laborious attention to non-essentials, which too frequently characterises the special treatises of our continental brethren, and deters the English reader who is anxious to consult them. Those familiar with German will find much to interest and instruct them in the work.

ARTHUR E. BARKER.

The Termination of Nerves in the Sudoriparous Glands of Cats' Feet. (*Compt. Rend. Ac. Sc.*, lxxxvi.) By P. COYNE.

M. Coyne's researches show that the glandular *cul-de-sac* of the sudoriparous gland enters into relation with the peripheral nervous system in two ways: 1. By nervous tubes, which are lost in the limiting membrane; 2. By cells essentially different from connective tissue corpuscles, and analogous in their characters to multipolar nerve cells. These cells are also situated outside the limiting membrane. It was found impossible to follow the nervous elements further.

T. CRANSTOUN CHARLES.

NEW INVENTIONS.

PEPTOLEINE.

This emulsion of cod-liver oil has been introduced by Dr. Peter Gowan. It contains 50 per cent. of a pure cod-liver oil emulsified by gum acacia and phosphate of soda, aromatised with Peruvian balsam. It is an extremely perfect emulsion, mixing well with water or milk, and the flavour of cod-liver oil being efficiently covered without the introduction of any other strong essence. The materials used in the emulsion are well selected, the phosphate of soda having a tendency to prevent the biliousness which cod-liver oil sometimes causes, whilst the gum acacia and Peruvian balsam are able to exercise also their influence as demulcents, and in the latter case as bronchial stimulant. Peptoleine has been found, and is likely to be found, less liable to disturb digestion than pure cod-liver oil, and, in the many cases in which cod-liver oil is found to be unpleasant in use or distasteful to the patient, Peptoleine claims a trial. The agents for Peptoleine are Messrs. Burgoyne, Burbidges and Co., 16, Coleman Street, London.

GALE'S CHLOROZONE.

This powerful deodoriser will be found to give off abundantly chlorine and oxygen, the two most powerful disinfectants, and to have an immediate effect in destroying bad smells and arresting decomposition of putrid matter. For the sick room, for hospital wards, and for ordinary sanitary purposes, Chlorozone may be recommended as a powerful economic deodorant and disinfectant. It is made by Gale and Co., Wholesale Chemists and Druggists, 15, Catherine Street, London.

MISCELLANY.

THE treatment of blepharospasms by forcible stretching of the sphincter muscle of the eyelids is advocated by Dr. H. G. Cornwell of Youngstown, Ohio, in a reprint from the *Ohio Medical and Surgical Journal*.

EXTRACTION OF ANIMAL PIGMENTS.—C. Méhu separates colouring matters from animal fluids by the addition of ammonium sulphate. In this manner, he readily isolates the pigments of pathological urines, fecal matter, bile, serous liquids, etc.

ACCORDING to *Le Petit Marseillais*, the waters of the Dead Sea are about to be worked for potash, iodine, and bromine. The projectors calculate on delivering potassium chloride in London at 90 francs per ton, thus underselling the Stassfurt manufacturers.

DETECTION OF SALICYLIC ACID IN BEER.—Blas recommends to drink the beer, and, in about three hours, to test 20 c. c. of the urine with ferric chloride in the usual manner, as the reaction is about five times more delicate in urine than the original beer.

THE LENGTH OF THE FŒTUS.—Dr. Delabout of Rouen has found out a rule for conveniently remembering the length of the fœtus according to its age, which, although only indicating the mean, is applicable to the great bulk of cases. For the first six months of intrauterine life, the length at different ages is indicated in centimètres, by the square of the numerical figure of the corresponding month. At the end of the first month, the fœtus measures one centimètre; the second month, four; the third month, nine; the fourth month, sixteen; the fifth month, twenty-five; and, the sixth month, thirty-six centimètres. For the last three months, the increase is from four to five centimètres per month. So, that at the seventh month, it is forty centimètres; at the eighth month, forty-five; and, at the ninth month, fifty centimètres.

A DUMB DOG.—A deaf and dumb lady living in a German city had as a companion a younger woman who was also deaf and dumb. They lived in a small set of rooms opening on the public corridor of the house. Somebody gave the elder lady a little dog as a present. For some time whenever any body rang the bell at the door the dog barked to call the attention of his mistress. The dog soon discovered, however, that neither the bell nor the barking made any impression on the women, and he took to the practice of merely pulling one of them by the dress with his teeth in order to explain that some one was at the door. Gradually the dog ceased to bark altogether, and, for more than seven years before his death, he remained as mute as his two "companions".

SALICYLIC COTTON, BENZOIC COTTON, AND LIQUOR ALUMINÆ ACETICÆ AS ANTISEPTICS.—To prepare salicylic cotton, (five per cent.) Paul Burns directs (*Pharm. Centralblatt*), the saturation of 100 parts of cotton with 400 parts of a solution in alcohol of salicylic acid five parts, and castor oil two parts (or castor oil and colophony each one part). In a precisely similar manner the benzoic cotton is prepared, substituting benzoic for salicylic acid. The amount of salicylic or benzoic acid may be increased up to ten per cent., the quantity of castor oil being also correspondingly increased. A solution of acetate of alumina is recommended by the author as superior to thymol, or carbolic, salicylic, or benzoic acid for disinfecting purposes, for dressing wounds, and for permanent antiseptic irrigation. He prepares the solution by dissolving in 500 parts of water 150 of alum, and mixing this with a solution in 500 parts of water, of 240 parts of crystallised lead acetate, filtering and adding water sufficient to make the filtrate measure 2,000 parts; this solution, which contains three per cent. of alumina acetate, he frequently dilutes for use with from three to six times its bulk of water.

THE Municipal Council of Paris has just adopted a highly commendable resolution. Its purpose is to give a

free breakfast to all children who attend the primary schools of the capital. The repast is hot, copious, and simple; and, in this way, the children will no longer be obliged to run shivering to their homes, where frequently they do not find any one to give them their scanty breakfast.

LIVING BAROMETERS.—If the swallows almost touch the earth with their wings in flying, a thunder storm is not far off; but, if they mount up high in the air, the weather is sure to be dry. If the fowls roll in the dust or stick out their feathers, it will rain. Ducks clap their wings and dive repeatedly when they feel that rain is coming. Ravens greet the approach of rain with inharmonious croaking; owls scream, and the wagtails hop about on the borders of ditches. The bees do not go very far from their hives, and re-enter them quickly when they feel that bad weather is near. If cows lick the walls at night for the saltpetre which the dampness of the air eliminates from the stones, bad weather may be confidently expected. Another positive sign of bad weather is the following. Leave some cutting instrument, e.g., a sickle, out of doors in the morning when the dew is falling: if the blade remains dry the weather will remain fine; but, if it turns blue or pinkish, and becomes wet, rain is near at hand.

THE INFLUENCE OF BRAIN WORK ON THE GROWTH OF THE SKULL AND BRAIN.—Messrs. Lacassagne and Cliquet communicated an interesting paper on the subject to the *Société de Méd. Publique et d'hygiène professionnelle*. Having the patients, doctors, attendants, and officers of the Val de Grace at their disposal, they measured the heads of 190 doctors of medicine, 133 soldiers who had received an elementary instruction, 90 soldiers who could neither read nor write, and 91 soldiers who were prisoners. The instrument used was the same which hatters employ in measuring the heads of their customers; it is called the conformator, and gives a very correct idea of the proportions and dimensions of the heads in question. The results were in favour of the doctors; their frontal diameter was also much more considerable than that of the soldiers, etc. Nor are both halves of the head symmetrically developed: in students, the left frontal region is more developed than the right; in illiterate individuals, the right occipital region is larger than the left. The authors have derived the following conclusions from their experiments. 1. The heads of students who have worked much with their brains are much more developed than those of illiterate individuals, or such as have allowed their brains to remain inactive. 2. In students, the frontal region is more developed than the occipital region, or, if there should be any difference in favour of the latter, it is very small; while, in illiterate people, the latter region is the largest.

CHEWING GUM.—Until a short time ago the "gum" from the spruce tree was exclusively used for the purpose of chewing, when it found a rival in a substance designated "gum mastic", which is not made from the resin of that name, but is prepared from paraffin. It has a nice white appearance, and is sweetened. The consumption of spruce gum is believed to reach twenty tons, and that of gum mastic thirty tons per annum; while balata has, since the period of its introduction, been sold to the extent of fifty tons per annum, and there are manufactories of it in New York State, New England, Ohio, Illinois, and Tennessee. It is sold by druggists, grocers, and confectioners. The saliva is not expectorated, as it is in chewing tobacco. This extensive use of a chewing material seems, the *Pharmaceutical Journal* observes, to point to a widely felt want, and is probably not without its medical bearing. The rapid manner in which food is often bolted, without sufficient mastication, by people in business and other occupations in which little time is allowed for meals, does not allow enough time for the starchy matters of the food to be rendered soluble by the action of the saliva, and the quantity of saliva secreted and swallowed under the stimulus of a masticatory, probably greatly assists in the subsequent digestion of food of this character.

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THE Thermal Station of Royat was much frequented by the Romans. It is situated in a beautiful valley, near to the large town of Clermont-Ferrand, at the foot of the Dome Mountains, the picturesque and remarkable extinct volcanoes of Auvergne, and is the natural point of departure for various delightful excursions.

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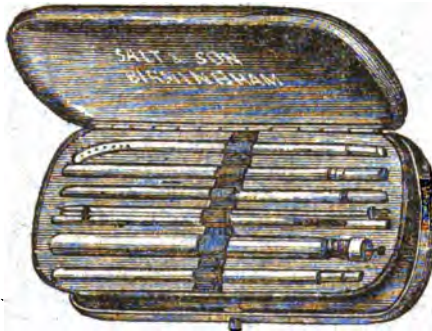
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hypodermic syringe, for concentrated solutions; folding scissors; spring forceps; sharp and blunt bistouries; Syme's knife and tenotome—fourteen instruments in all. The instruments are sufficiently large for all practical purposes, whilst the entire case may be conveniently carried in the waistcoat-pocket."—*Lancet*.

"The instruments are sufficiently large for all ordinary purposes; and we think this Case, with its carefully selected contents, will meet with general approval."—*British Medical Journal*, Jan. 18th, 1879.

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Extract from *THE LANCET*, June 29th, 1878.

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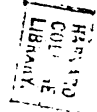
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[May 15, 1879.]

The London Medical Record



A REVIEW OF THE

*Progress of the Medical Sciences and of
Subjects relating to Public Health*

LONDON

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TREATMENT OF NEURALGIA.—Letter from Mr. METCALF JOHNSON.

[To the Editor of "THE MEDICAL TIMES & GAZETTE".]

"SIR,—May I ask you to lay before your readers the following results of my experience in the treatment of Neuralgia, which is to my mind so likely to afford relief to suffering humanity that I do not feel justified in withholding it. The treatment consists in painting the part affected with 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., Druggists, of Bristol, and in the exhibition of a remedy composed of the Tincture of Gelsemium and Tincture of Guarana. The following cases of relief will be my justification for offering advice to use a prescription of a somewhat secret nature:—

"J. P. called one morning, suffering from facial Neuralgia in all the four points of the surface development of the facial nerves. I painted his face over the four spots, and before the liquid was dry his pain was gone. It returned the next day, but was again relieved by the remedy, the relief lasting for twenty-four hours.

"I met A. B. in the street, who was complaining of an obstinate Neuralgia, which had resisted several of the usual remedies. A trial of the treatment here indicated was attended with immediate relief.

"It has been tried, I believe, at my suggestion by one member at least of the family of three of my professional brethren.

"A patient suffering from podagric Neuralgia of the forearm finds such relief that frequent resort is had at night to the use of the painting with the ANODYNE COLLOID.

"A few days since, a lady suffering from that painful affection called 'soft teeth', caused by caries, and in whose case considerable swelling was apparent, found immediate and permanent relief by painting the cheek with the remedy.

"A clergyman, of a very high nervous organization, and in whom, as is often the case, considerable strength of mental power is developed, described the relief which was obtained by the use of both the remedies as 'like magic'. In several other instances, of which I have kept no record, relief has been obtained by the use of one or both remedies.

"Hoping this will induce more of your readers to try the remedies suggested, I leave the case in your hands, merely adding that the ANODYNE AMYL COLLOID professes to be a solution of Aconitine and Veratrine with Hydride of Amyl in a medium of Collodion; but the proportions are not stated. The Tinctures of Gelsemium and Guarana are in all probability better known to your readers. I have, at the request of Messrs. FERRIS and Co., already given them my testimony to the value of their preparation, in a letter addressed to them a few weeks ago. If you will kindly insert these few remarks in your paper, I think you will oblige many of your subscribers, as you will also,

"LANCASTER, May, 1878."

"Yours, etc.,

METCALF JOHNSON."

From "THE MEDICAL RECORD", London, May 15th, 1878.

"We have submitted to trial the 'ANODYNE AMYL COLLOID', prepared by Messrs. FERRIS and Co., of Bristol. It is prepared with Hydride of Amyl, holding in solution Aconitia and Veratria, and combined with Ethereal Collodion. We have tried it in Neuralgia and Muscular Pains with marked benefit.

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BRISTOL.

The London Medical Record.

ECHEVERRIA ON TREPHINING FOR EPILEPSY DEPENDING UPON INJURIES OF THE SKULL.*

THE statistics of Stephen Smith (*New York Journal of Medicine*, March 1852), comprising 27 cases; of J. S. Billings (*Cincinnati Lancet*, June 1861), 72 cases; and, finally, the table of 12 cases operated upon and published by Dr. S. Bontil (*Boston Med. and Surg. Journal*, vol. x, 1872), give irrefragable proofs of the utility of trephining in epilepsy produced by injury of the cranium. Russel (*Brit. Med. Journal*, 1865) collected 78 cases, but without giving the names of the operators, or the bibliographic source. This communication also cites the statistics of Billings, and gives the opinion of Cooper and Copeland as in favour of the trephine, fortified, in their opinion, by the success of Dudley, Guild, and other surgeons. Velpeau did not approve of the operation, except when there existed an œdematous and crepitant cicatrix; Syme and Solly felt the gravity of the operation, but the former thought it well to operate where an open wound communicated with the fractured cranium.

Since that time, the improvements which have been made in the instrument used, and the recent discoveries in cerebral localisation, with the success obtained by Broca, Bœckel, Lucas, Championnière, Marraud, Proust and Terrillon, would seem to indicate that a reaction has set in against the doctrines hostile to the operation.

Dr. Echeverria then gives a table of 145 epileptics who were trephined, the name of the operator, the result of the operation, and the bibliographical source. The results may be briefly given as follows: 93 cures; 18 improvements, 5 in which there was no change, and one where the symptoms were aggravated; the deaths 28; total 145 epileptics, of whom six were females, 3 children from seven months to 12 and 13 years, 17 youths, and the remainder adults. Primitive pericranial lesions existed in 32 of these 145 cases.

As to cranial injuries, several reports only indicate the fracture without naming the site. There were, however, specified 15 fractures of the frontal, 11 fronto-parietal, 3 of the temporal, and 6 of the occipital bone; the remaining 26 observations do not state the bone injured. It is worthy of note that the left parietal bone has been most frequently the seat of fracture. The various kinds of fracture in the 113 cases corresponding to the cranial lesion were 16 cases of simple depressions of bone; 13 by firearms, in one of which the projectile remained in the wound seven years; 31 comminuted and complicated; 34 simple fractures; 3 multiple; 5 with external fistulous openings; one fracture of the parietal, with traumatic aneurism of the middle meningeal artery; and, lastly, two cases in which the fracture was complicated by protrusion of brain matter.

The difference in the mortality between the early and late operations is not remarkable; 3 deaths occurred amongst 17 of the former, and 25 among

138 of the latter, being a mortality of 17 per cent. for the early and 18 for the late operations. The causes of death amongst the 28 fatal cases were of a very diverse nature.

Suppuration upon the whole surface of the brain; great effusion of blood in the brain under the seat of the operation; gangrene of the membranes and abscess of the brain; hæmorrhagic openings into the longitudinal sinus; abscess of the brain in one case, and gangrene after meningitis in another; meningitis and erysipelas; encephalitis by loss of cerebral substance; in the other operated cases, death followed a meningitic encephalitis, the immediate consequence of the operation.

Death took place on the 17th day after the operation in the patients of Bell and Haywood; of Bylous's cases, one with abscess of the brain died on the 39th day, the other the 3rd day. Warren's patient had continual hæmorrhages from the longitudinal sinus during the nine last days; in Adams's patient the fatal symptoms developed themselves on the 14th day in the temporal region. The patients of Gross and Gilmore succumbed rapidly, and the cases of meningio-encephalitis were not less rapid in their course.

In 1864, Henri Charbon repeated the operation 27 times upon the Count Phillip of Nassau, and the result was cure. This number was, however, surpassed by Mehée de la Touche, who, in the space of fifteen months, made 52 applications of the trephine, of which 27 penetrated to the dura mater. Saviard trephined a patient 20 times; Gooch 13 times; Desportes 12; and, finally, at an earlier epoch, Russ and Legendre, surgeons of the King of Navarre, in 1686 elevated nearly the whole of the two parietals, their patient living thirty years, although hemiplegic; results which seem to protest against those who reject the operation on account of its extreme gravity.

The five cases in which no change took place after the operation hardly protest against the very numerous facts which prove that, as a rule, the benefit obtained by the operation in cases of epilepsy due to traumatism, is immediate and permanent. Traumatism followed by functional troubles indicates sufficiently the treatment by the trephine. And it may be affirmed, on the strength of a long experience, that no epilepsy caused by traumatic lesion of the cranium is ever cured by time. A disease which, apart from its own peculiar dangers, exposes its victim to so many and various accidents, demands that the trepan be employed without hesitation or useless delays, except when fever occurs, immediately on the accident. On the other hand, we may remember that, as a rule, epileptics are exempt from disturbances consequent to the most grave wounds, and also the rapidity with which their wounds cicatrize, circumstances which diminish the risks not only of the trepan in cases of long standing, but also of all surgical operations practised upon epileptics. Except in very well-defined cases of immediate epilepsy, with fever and traumatic meningio-encephalitis, there should be no hesitation in operating each time that the symptoms indicate it. Large portions of bone may be removed, if necessary, and the practice of the American surgeons is not to close the wound until all bleeding has ceased, when it will do well without antiseptic treatment. Galt's instrument is the safest, as it is not liable to wound the dura mater, and is so contrived that when the bone is cut through, the instrument will not cut further.

* *Archives Générales de Médecine*, Dec. 1878.

The principal accidents following the operation in the cases collected above may be shortly named. Five times there were intra-cranial hæmorrhages; in one there occurred a traumatic aneurism of the middle meningeal artery, which was quickly arrested by the cautery. In one case there was hæmorrhage from a branch of the middle meningeal, which ceased spontaneously. Croft's patient had large clots between the dura mater and the brain, caused by the rupture of a meningeal vessel, wounded by the fractured bone, and there occurred during the operation bleeding from two small arteries of the scalp. Warren's patient had hæmorrhage from the longitudinal sinus during the last nine days. In one of Goss's cases there was a large collection of blood from the rupture of a diseased vessel near an exostosis on the internal face of the depressed bone. In one of Dudley's and two of Gilmore's cases there was loss of cerebral substance consecutive to the traumatism. The first ended happily, the other two fatally. The patients of Broca and Bœckel, who had hernia cerebri, recovered, in spite of the very serious conditions under which they were trephined. We may conclude that the trepan is the best means for the cure of accidental epilepsy consecutive to traumatisms of the cranium; that the immediate operation succeeds hardly to the same degree as the late, fever in either case being a serious contra-indication to the trepan. Insanity and paralysis are the complications which justify rather than contra-indicate the trephining of the cranium in epilepsy produced by traumatic lesions of the head. The operation succeeds equally when syphilitic products in the cranial bones resist specific treatment, or in other cases where they cause epilepsy or serious cerebral attacks.

The statistics of a considerable series of operations show that the mortality of the operation for accidental epilepsy by wound of the head, without taking account of the time of the operation, is 19.30 per cent., the cures 64.13 per cent., the improvements 12.41 per cent., and the cases in which the epileptic attacks have not changed 3.44 per cent.

It is of the first importance for the success of the operation to protect the membranes as far as possible, and to avoid their violent reaction against the slightest injury or foreign body. It is not less necessary to employ the silver suture, and not to open the edges of the wound until all bleeding has ceased, and, lastly, to prevent supuration and inflammation of the pericranium and of the brain. There is no hesitation to promptly clear and set free from the wound. The constant administration of opium, and hemlock (prepared from green fruit), the use of the bowels by terebinth enemata, with a light diet, and especially the placing of the patient in a large area, are the main conditions for the success of the operation.

It is prudent to guard the patient, for some time after the operation, under the influence of anti-epileptic treatment, in order to destroy all remains of the nervous system, a tenacious element of the disease.

CHARLES ALDRIDGE, M.D.

In 1 oz.

FERRIS, PORTER AND CUNNINGHAM
MANLY, N. Y.
THE PATHOLOGY OF FAMINE.

Report to the Indian Government for Surgeon-Major R. W. Cornish, and in a

paper printed by Surgeon D. D. Cunningham, M.B., as an appendix to the Report of the Sanitary Commissioner with the Government of India, are included many extensive and careful epidemiological, clinical, and histological reports, from which the following deductions are gathered by the *Indian Medical Gazette* of March 1, 1879.

1. In the first place, it appears that, though famine does not originate any specific pestilence, it seriously aggravates the incidence and mortality of any epidemic which may chance to exist in the famine area at the time. Cholera and small-pox happened to prevail in the Madras presidency when the famine broke out, and from both these diseases an appalling aggregate of mortality has resulted. Small-pox has been found to be in India and elsewhere an almost invariable concomitant of famine, but, as Dr. Townsend has shown, cholera is by no means an inevitable associate of scarcity. Dr. Cornish also points out in his report that there was no relation between the severity of cholera and famine, the former reaching its climax before the latter had attained its extreme. In the Irish famine of 1846, relapsing fever raged so conspicuously that it has gained the synonym of famine fever. In the Madras famine this fever was not observed, and there is every reason to believe that it has no essential dependence on famine; that, as in the case of cholera and small-pox, it simply assumes an aggravated type and prevalence when it happens to co-exist with famine. The relation of the Madras famine to malarious fever is very interesting. As long as no rain fell, little or no fever existed; when the rain came and malaria was developed, severe and fatal types of malarious fever broke out, and the impoverished population was prostrated and decimated by it. Indeed, in this, as in every other famine, it became apparent that the increased mortality was largely due to the aggravation or aggravated effect of causes to which, in ordinary circumstances, mortality is due, as well as to the more special and peculiar effects of scarcity and inanition.

2. Dr. Cornish draws a most important distinction between acute and chronic starvation; the former due to a sudden and entire deprivation of aliment, and the latter to the prolonged use of a diet insufficient in quantity or unsuitable in kind to maintain the nutrition of the body up to its normal standard. The latter was the kind of starvation to which the famine gave rise in almost every instance, and it is to this species of famine disease that the observations recorded almost exclusively apply.

3. The results of rough observation of the condition of the bodies of persons suffering from the effects of chronic privation of food were as follows: (a) emaciation and loss of bulk; (b) disappearance of subcutaneous fat and absorption of the mammæ in females; (c) anæmia; (d) swollen and ulcerated gums (land scurvy) in a large proportion; (e) a great tendency to ulceration and sloughing on slight injury; (f) anasarca in a considerable number; (g) dry scurvy skin with pigmented patches; (h) bristly discoloured hair; (i) an aspect of great hebetude and depression; and (j) a crouched attitude, the limbs being gathered in on a sunken abdomen.

Loss of body weight amounted, according to the observations made, from 20 to 40 per cent. Chossat's experiments, made as far back as 1843, proved that in the process of starvation, fat and blood disappeared in greater proportion to bulk and weight than any other tissues. The Madras observations accord

with these deductions. The disappearance of subcutaneous fat was most marked, and Dr. Porter's observations go to show that in a large proportion of cases it had disappeared in the great internal repositories of the tissue,—the omentum, mesentery, and around the heart. Chossat's observations also show that the systemic muscles possess a high index of waste. This was conspicuously noticed in Madras. The blood seems to have wasted rather in bulk than in any particular constituent, and the tendency to serous extravasation was very marked, the serum in some cases being tinged with blood-pigment.

4. Chossat's experiments also indicated the peculiar proneness of the spleen, pancreas and liver to a high degree of waste in starvation. Dr. Cunningham's *post mortem* investigations conspicuously confirm these conclusions, which Dr. Porter's observations likewise support in a general way. Wasting of the heart and intestines was also well marked.

5. The existence of a scorbutic state of the body in a large proportion of cases, is strongly insisted on by Dr. Cornish. The condition recognised by him as "land scurvy", characterised by spongy ulcerated gums, anæmia, and weak vitality, is a very common one in India, and has been a frequent cause of discussion in jails, some insisting that it is a general scorbutic condition, others attributing it to malarious cachexia, and others seeing in it merely a local affection of the gums and teeth. Whatever the real nature of the condition, there can be no doubt that it was a very common one among the famine-stricken, and was associated with general cachexia and feeble vital resistance.

6. But the most important discovery in famine pathology is that which Dr. Cunningham's researches point to, namely, the existence of depraved tissue change and destructive degenerative processes. He found that the tissues of the artificially starved vegetables and animals, as well as of the human victims of famine, underwent a fatty transformation and subsequent disappearance. The process, in the language of modern physiology, may be characterised as a degraded metabolism resulting in histolysis. This process was found to affect with peculiar prominence the mucous and submucous tissues of the intestines, leading to destructive desquamation of the epithelium, thinning of the intestines, and various degrees of ulceration, so that in some cases the muscular coat constituted the lining membrane of the intestine. The same fatty metamorphosis was observed in the skin, liver, and kidneys, but the lesions observed in the intestinal canal are the most interesting and important.

7. Clinical observation in relief camps and hospitals taught medical officers that there was a species of diarrhoea and dysentery which carried off the majority of the famine-stricken. It was of a passive kind, the motions containing undigested food, and the one condition frequently merging in the other. It was also noticed that there was a stage of starvation from which restoration was impossible. These observations furnish the key to these states. This indeed may be pronounced to be the famine disease *par excellence*, and it is obviously one for which there is no cure. Dr. Cunningham's observations do not support Bauer's statement that in starvation the tissues are merely atrophied and ready on presentation of material to resume function. They confirm Carpenter's statement that there is a degree or

state of inanition in which the power of assimilation is abolished.

The conclusions drawn by Dr. Cunningham and endorsed by Dr. Cornish from these observations are that famine relief to be effective must be early, and that experiments in reduced diet are most dangerous and reprehensible.

A SUMMARY OF FERRIER'S LOCALISATIONS.

THE following useful summary of localisations described by Dr. Ferrier in his Goulstonian Lectures on The Localisation of Cerebral Disease (Smith, Elder and Co., 1878), is given in the *Birmingham Medical Review*, April 1879. It will probably be found useful and acceptable by a large number of readers.

Lesions of Frontal Lobes.—The frontal lobe includes the superior middle and inferior frontal convolutions, the ascending frontal convolution, and the orbital and internal aspect of the same region, but for pathological and physiological purposes it is necessary to subdivide this, and to describe that part which, in its relation to the skull, is roughly bounded by the coronal suture, as the prefrontal lobe, or anterofrontal region. In the monkey, electrical stimulation of this region causes no motor reaction, and destruction of this region is followed by no paralysis of motion or sensation. There are numerous cases on record all pointing to the same conclusion; most extensive injuries and diseases of these lobes having produced no paralysis of motion or sensation. There is reason to believe that their function is in some way bound up with the higher manifestations of intelligence, their deficiency being frequently associated with idiocy, and their removal in monkeys, leading to impairment of the faculty of attention and intelligent observation.

Lesions of the Motor Regions.—The motor area, as determined by experiments on monkeys, includes the bases of the three frontal convolutions, and those convolutions bounding the fissure of Rolando, viz., the ascending frontal, the ascending parietal convolutions, the postero-parietal lobule, and the internal aspect of the same called the paracentral lobule. General or extensive lesions of this area are followed by paralysis of voluntary motion without affection of sensation on the opposite side of the body. This paralysis is frequently associated with rigidity or convulsive spasms in the paralysed parts, particularly in the early stage; and if destruction of the cortical substance be complete, the paralysis is of permanent duration, and sooner or later is followed by late rigidity and secondary sclerosis of the motor tracts, traceable down the crus and pyramid, and thence mainly in the opposite side of the cord in the posterior part of the lateral column, a corresponding band of secondary degeneration frequently existing in the internal aspect of the anterior column on the same side of the lesion. (In an earlier part of his book, p. 11, Dr. Ferrier refers to this incomplete decussation of the motor tracts as explaining the occasional departure from the rule that in cerebral hemiplegia the paralysis is on the opposite side to the lesion. He points out that according to Flechsig there is no normal fixed percentage of crossing and direct fibres, but that these present individual variations from three principal types, (a) total decussation, (b) semidecussation of one pyramid, (c) semidecussation of both pyra-

mids, while in rare cases the decussation of the pyramids may entirely fail.) But what is true of lesions of the cortical substance holds good equally of the subjacent white matter, which consists, at least in part, of the direct motor fibres passing down from the grey matter.

Partial lesion of the motor area gives rise to hemiplegia, but as the area of anatomically demonstrated lesion is not necessarily coextensive with the area of functional disturbance, conclusions as to exact localisation from a purely clinical point of view are always more or less doubtful. Thus, in one case the lower two-thirds of the ascending parietal convolution, in another the left paracentral lobule, were the seats of the lesion.

Oculo-motor Paralysis sometimes occurs independently. Dr. Ferrier has found that in the monkey there is an area at the base of the first frontal, and extending partly into the second frontal convolution, irritation of which causes elevation of the eyelids, dilatation of the pupils, conjugate deviation of the eyes and turning of the head to the opposite side. There are some cases which indicate the existence of a similar centre in the corresponding part of the human brain, but the facts at present known are not decisive.

Paralysis of the leg may exist apart from that of the arm. In the monkey, stimulation of the postero-parietal lobule causes movements of the leg as in walking. There are cases on record in which the lesion has been found in this region, in the upper part of the ascending parietal convolution and in the paracentral lobule. Dr. Ferrier says it is necessary to be cautious in drawing conclusions as to the exact position of the arm and leg centres in man from considerations of mere anatomical homology, but the cases referred to show a rough agreement between the data of the experiment and the facts of morbid anatomy. Where paralysis of the arm is associated with that of the leg the ascending frontal convolution is also implicated.

Paralysis of the arm only has been seen in a case where hæmorrhagic extravasation three millimètres in extent was situated at the upper part of the ascending frontal convolution. But the centre for the hand is placed by experiment in the ascending parietal convolution, which is remarkably confirmed by the examination of the brain, in a case, reported by Dr. Gowers, of congenital absence of the hand.

Paralysis of the arm is frequently associated with paralysis of the face. The lesions causing this affection are all towards the middle or lower third of the ascending convolutions, where experiments in monkeys have localised the facial and manual centres.

Facial paralysis from cortical lesions unassociated with brachial paralysis or aphasia is uncommon, and is always on the right side. It is probably due to a lesion of the lower frontal convolutions near their junction with the ascending frontal.

Aphasia is the result of destruction of the orolinguinal centres which are situated at the lower extremity of the ascending frontal, where it joins the third frontal, as is well known. Aphasia, in the great majority of instances, occurs only when the lesion is on the left side, and it is remarkable that in several at least of the cases in which aphasia has occurred with disease of the right speech centre, the patients have been left-handed.

In reference to the diagnosis of cortical paralysis, Dr. Ferrier remarks that apart from considerations as to the diathetic indications, mode of onset, etc.,

of the affection, there are no features which clearly enable us to distinguish between hemiplegia depending upon general destruction of the motor area of the cortex and hemiplegia due to destructive lesions of the corpus striatum, more especially those involving the anterior two-thirds of the internal capsule. But hemiplegia, complete from the first and permanent, is not the most common type of paralysis depending upon cortical lesion; on the contrary, the affection is often limited or transitory, a hemiplegia passing into a brachial or crural monoplegia, or monoplegia with spasm. Early rigidity is of frequent occurrence, and consciousness is less frequently lost. As Callender has pointed out, cortical lesions are more frequently accompanied by localised pain in the head. Irritative lesions of the motor area cause, not paralysis, but spasm, and the seat of the lesion may be approximately determined by the rules as to the localisation of destructive lesions, but with more uncertainty, from the obvious difficulty of determining the area of the zone of irritation or the special point in this zone in which the irritation concentrates itself.

Destructive lesions of the posterior third of the internal capsule cause hemi-anæsthesia of the opposite side of the body, a fact now well established. This hemi-anæsthesia is accompanied by a defect or abolition of taste, smell, and hearing, with loss of visual acuity, contraction of the field of vision and colour blindness. If, as was formerly supposed, only the internal fibres of the optic tract decussate, there should be hemiopia of both eyes, and not amblyopia, as is the case. This difficulty is got over by assuming that the fibres which do not decussate in the chiasma do so in the corpora quadrigemina. "It is clear," says Dr. Ferrier, "that the lesion of the internal capsule which produces these effects does so by causing a solution of continuity of the paths of centripetal impressions," and he proceeds to enquire where those centres are to which these impressions are ultimately conveyed. Both experiment and morbid anatomy exclude the occipital lobes. Lesions of these are latent, though the author believes that these lobes are connected with our visceral impressions, animals who have suffered mutilation of these parts refusing to eat. We turn, therefore, to the temporo-parietal region, consisting of the supra-marginal lobule and angular gyrus in the parietal lobe, and all the convolutions of the temporo-sphenoidal to be on its external and internal surfaces. Lesions of this part in the lower animals produce impairment or paralysis of sensation on the opposite side of the body.

Vision.—Unilateral destruction of the angular gyrus in the lower animals is followed by temporary blindness in the opposite eye; bilateral destruction by permanent blindness in both eyes.

Hearing.—Destruction of the superior temporo-sphenoidal convolution on one side causes impairment of hearing on the opposite side; bilateral destruction causes complete deafness.

Smell.—Destruction of the lower extremity of the temporo-sphenoidal lobes on one side causes loss of smell on the same side, and if invading neighbouring regions, causes loss of taste as well; bilateral destruction causes complete loss of taste and smell.

Common and Muscular Sensation.—When the region of the hippocampus major and uncinate gyrus was ploughed up in such a manner as to avoid the internal capsule and medullary fibres of the other cortical regions (with the exception of the occipital lobe), tactile sensation was abolished on

the opposite side, sight and hearing remaining unimpaired.

These are the results of experiments on animals. At present they are not fully confirmed by pathology, lesions in these regions being usually described as latent, but Dr. Ferrier says there is reason to believe that the latency may have been in the observation. In reference to cortical lesions and their effects on hearing, he quotes a case of what Kussmaul has called "word deafness", associated with softening of the first and second temporo-sphenoidal convolutions. In this condition of word deafness the patient may be able to hear but not understand spoken words, though he can read and write. He also quotes a case of word blindness, an analogous affection of the visual centre, in which the lesion corresponded with the angular gyrus.

With regard to the localisation of tactile sensibility, Mr. Jonathan Hutchinson concludes, from his observations on cranial injuries, that contusion of the sphenoidal lobe more particularly causes, along with partial motor paralysis, paralysis of tactile sensation on the opposite side of the body.

URINARY PHTHISIS. RECENT PAPERS.

1. TAPRET.—Study of Urinary Tuberculosis. (*Arch. Gén. de Méd.*, May and July, 1878.)
2. GUEBHARD.—Study of Tuberculous Cystitis. (*Thèse de Paris*, 1878.)
3. BIERRY.—On Primary Tuberculosis of the Urinary Tracts. (*Thèse de Paris*, 1878.)
4. JEAN.—Primary Tuberculosis of the Urinary Tracts. (*France Méd.*, 1878.)

1. The author considers urinary phthisis as belonging to the class of affections which Pidoux designated under the name of anomalous phthisis. He thinks that the symptoms by which it shows itself are sufficiently characteristic to enable the practitioner to make a correct diagnosis, and consequently to adopt a rational treatment. So far as regards the etiology of the disease, urinary tuberculosis is essentially an affection of adult age; it seldom occurs in females, but appears in males between the age of 20 and 45. The symptoms present some interesting variations, according as the processus is principally confined to the kidneys, the bladder, the prostatic gland, or the urethra.

Primary or Isolated Tuberculosis of the Kidney.—The symptoms of this affection (hæmaturia, albuminuria, pus in the urine, combined or not with polyuria, spontaneous pains, or pains caused only by pressure on the lumbar region) are not characteristic, and might as well be attributed to other renal affections, such as interstitial nephritis, gravel, etc., thus rendering the diagnosis very difficult. The progress of this affection is generally slow, except in cases where the tubercles develop more rapidly, when death occurs generally at the end of a few months. The patient dies of uræmia, owing to the destruction of the renal tissue.

Primary or Isolated Tuberculosis of the Bladder.—M. Tapret thinks that there really exists a tuberculous cystitis, which has hitherto escaped observation, because attention had been principally directed to the kidneys, and the general opinion was that lesions of the bladder occurred only in very exceptional cases or in the last stages of the disease.

The characteristic symptoms of this cystitis are: hæmaturia, appearing at an early stage, so-called premonitory hæmaturia, polyuria, which only shows itself at irregular intervals, and owing to divers causes; pains in the region of the neck of the bladder and a peculiar tenderness of the bladder, the latter being almost always irritable, and in a permanent state of contraction. In the few cases where it has retained its normal capacity, it is sometimes possible, by passing a sound into the bladder, or rectal examination, to feel a hardened spot on the fundus of the organ. This tuberculous cystitis generally progresses very slowly, and ends in consumption or urinary phthisis, unless some local accident should bring on a cachectic state more rapidly.

Primary or Isolated Tuberculosis of the Prostatic Gland.—This embraces two distinct clinical forms of the affection, a rectal or circumferential form and an urethral or urethro-cystic form. The latter presents the symptoms which are generally attributed to cystitis or tuberculous urethritis, pains during micturition, and while the catheter is being used, blennorrhagia, prostaticorrhœa, spasmodic retention of urine. During the latter stages of this affection, fistulas generally form, opening from the prostatic gland into the urethra, the rectum, or the perineum. According to M. Tapret's opinion, all those various symptoms of the presence of tubercles in the genito-urinary organs only acquire importance after the urinary tracts, and especially the neck of the bladder, have been invaded by tubercles. When the neck of the bladder has been reached, the disease assumes a characteristic appearance, which is typical, and may be thus briefly defined. An individual, aged from 20 to 40, who has hitherto enjoyed good health, suddenly sees hæmaturias appear without any special cause, and without pain; these are followed after an interval of time, varying according to the individual, by retention of urine, which, however, is easily overcome; then the desire to micturate begins to grow more and more frequent and imperious. The act itself is very painful; the patient passes, with a great deal of pain and trouble, a few drops of urine leaving a deposit of blood-streaked pus in the vessel. At intervals the urine is more abundant, clear, almost normal (nervous urine), or dusky and discoloured (in deeply-seated diseases of the kidney). There is also blennorrhœa of the deep parts of the urethra; the bladder is either small or dilated, the neck painful, the fundus hardened; no traces of any foreign bodies; the renal region is tender to the touch, and the prostatic gland presents a knotted appearance. The general state of health of the patient remains for a long time satisfactory. His temperature is hardly ever raised or his digestion impaired. The principal complaint is that he cannot stand upright without suffering. The progress of the affection is, though slow, yet sure to be fatal, and death is due either to the urinary phthisis or to a complication with acute pulmonary phthisis. All these phenomena, however, are far from having the same semiological importance, and the most important are: difficulty in micturition, modifications occurring in the character of the urine, and urethral discharges.

1. Difficulty in micturition. There is frequent desire to micturate during the night, accompanied by painful or painless contractions of the bladder, neck of the bladder, and urethra. The character of the pain varies, according to whether it occurs in the intervals between micturating or during the act itself. In the first case the patient complains of a feeling of pressure behind the os pubis, at other times there is

a burning sensation, which radiates towards the umbilicus, the perineum, and the rectum, or the pain comes on in paroxysms, like renal colics. The patients are melancholy and despair of improvement. The pain during micturition presents generally the following characteristics.

1. The desire to micturate is accompanied by an intense feeling of pain.

2. The pain is only experienced during the first stage of the act, and dies away later on.

3. The pain is experienced towards the end of the act, when the bladder contracts, to expel the last drops of urine. The patients compare it to a sensation of burning heat and stricture of the neck of the bladder.

Modification in the Character of the Urine.—Here we meet with either hæmaturia, polyuria, or pus in the urine. Transitory hæmaturia originates from the kidneys, persistent from the bladder; if only appearing at the end of the act of micturition, it is due to a lesion of the bladder. It has been observed at different stages of urinary tuberculosis. So-called premonitory hæmaturia often occurs when the patient is apparently in good health, and it is either very profuse or very slight. The author has given them the characteristic name of urethral epistaxis, and attaches little or no importance to them. Later on, the hæmaturia is generally very painful, and not very abundant. The blood is not mixed thoroughly with the urine, and is precipitated on the bottom of the vessel, together with the muco-purulent detritus. Considered from a diagnostic point of view, hæmaturia in this stage may be considered as equivalent to hæmoptysis in pulmonary tuberculosis. Polyuria appears either at an early stage of the disease or towards the end, when the kidney is entirely degenerated. In the first case it is transitory, the urine is pale, clear, and does not contain albumen, but varies much as to quantity and quality. In the second case the urine is thick, whitish, changes colour immediately after it has been passed, and deposits a muco-purulent or bloody precipitate, without, however, becoming any clearer. It is generally called renal urine. The presence of pus in the urine is often one of the first symptoms of urinary phthisis. It often continues unnoticed for months or years, while in other cases the patient happens to notice it by chance. It is not a very favourable symptom, as it proves the individual to be under the influence of some diathesis, which is on the point of manifesting itself more clearly and pronouncedly.

Urethral Discharge.—This symptom only appears when the urethral duct itself has been affected by the disease. If the lesion is situated in front of the anterior sphincter, the discharge is incessant, and may be compared to blennorrhagia, but if the prostatic part is the seat of the affection, the discharge merely consists of a few drops of a muco-purulent fluid, which appear before and after micturition.

We abstain from publishing an analysis of the three other theses, as they do not contain any facts or observations that have not been fully commented upon in the one analysed.

ON THE TOXIC AND OTHER DISADVANTAGES OF ATROPINE COLLYRIA.

SEVERAL cases of poisoning by atropine collyria have come under recent observation, and many of them were discussed at a meeting of the *Soc. de Méd.*

de Paris, November 23, 1878. The first case is that of one of the most distinguished chemists in Paris, who had been treated for some time by Dr. Lutaud for a chronic affection of the respiratory tract. While convalescent he was taken ill with iritis, and consulted an ophthalmologist, who prescribed appropriate treatment, which the patient followed for some days. Suddenly, one night he manifested such violent symptoms, that Dr. Lutaud had to be summoned in haste, and found the patient in a most distressing state. He was delirious, sometimes gay, and at other times furious, his excitement was extreme, and only grew calmer at long intervals. When first seen, he was crouching on his knees and elbows, and uttered long and plaintive moans, as if suffering intensely. Suddenly he would grasp his head with both hands, and become so violent that his attendants could scarcely hold him. He did not recognize anyone, could not articulate, and it was utterly impossible to obtain any answer from him. His eyes were prominent, the conjunctivæ injected with livid vessels, and the mydriasis was so strong that the rim of the iris no longer responded to the action of light. He was evidently quite blind. The palpitations of the heart were tumultuous, respiration abrupt, stertorous, irregular, and quick. There was no paralysis, no trembling, no convulsions, the pulse was small, frequent, feeble, and irregular, the skin cool and clammy. Although the pupils were dilated, and Dr. Lutaud knew that his patient had been using sulphate of atropia, yet, as he was ignorant as to the dose of the drug, it did not occur to him to attribute to it these severe symptoms. Dr. Dieulafoy, who was called in half an hour later, was equally at a loss as to their cause. A hypodermic injection of three centigrammes of acetate of morphia was then administered, and soon after the delirium ceased, and a most alarming stupor set in. After a great deal of trouble they succeeded in making the patient swallow a few spoonfuls of strong coffee. It was not till several hours after he had been called in that Dr. Lutaud found out that the patient had the night before suddenly raised the dose of sulphate of atropia from five centigrammes to ten, while the proportion of water remained the same, viz., ten grammes, and that he had used this very strong drug as a lotion every hour, without having previously taken the necessary precautions of compressing for some instants the inferior lacrymal punctum. He then first became slightly comatose, and afterwards delirious, so that there could be no doubt as to the symptoms being due to poisoning with sulphate of atropia. This was also confirmed by the happy effects of the subcutaneous injection of morphia. Eight hours after the first symptoms had shown themselves, the patient could utter a few words, and answer vaguely the questions which were put to him. He was then allowed to sleep for a few hours, and on waking asked his attendants with the greatest calmness what they were doing there; he had not the least remembrance of what had happened, and felt perfectly well, with the exception of a rather quick pulse, a feeling of dryness in the throat, and dilatation of the pupil. A few days later he could again attend to his business without any further complications. It is one of the characteristic phenomena of atropia poisoning, that the symptoms disappear very rapidly, and Dr. Lutaud quotes several cases where the patients had been taken to the hospital shortly after the symptoms of poisoning had manifested themselves, and awoke very much astonished in finding themselves there.

They could not in the least remember what had happened, and were quite well after forty-eight hours.

It appears, from what has been said, that eye-lotions and applications which contain atropia may penetrate into the puncta lacrymalia, and thence into the pharynx and digestive tract, thereby causing very serious toxic symptoms. These accidents, however, do not last long, and are remarkable for the suddenness with which they both appear and disappear. Precautions ought to be taken to avoid them by compressing the puncta lacrymalia during the application, and thereby preventing the liquid from passing into them and thence into the pharynx. The most experienced oculists, such as Desmanes, Galezowski, Meyer, Von Wecker, Abadie, Camuset, Fieuzal, and Gillet de Grandmont, are all of opinion that as a rule poisoning through a collyrium containing neutral sulphate of atropia does not often occur, and then only in the case of old people. Peltier in his thesis on the subject (*Thèse de Paris*, 1877) says that the symptoms vary exceedingly in intensity, from a simple heightening of the temperature to a general intoxication, but in every case they must be ascribed to an idiosyncrasy which cannot tolerate atropia. They either appear suddenly after one or more applications of the drug; or after the treatment has been carried out for some time. Another peculiarity is that the accidents are sure to be repeated, even after the treatment has been interrupted for months, and sometimes if only one drop of the one-thousandth part of a solution of sulphate of atropia is dropped into the eye. Mackenzie has observed hallucination in such cases; Testelin attacks of acute delirium. M. Richet had under his care in 1858, at the Hôpital des Cliniques, a patient who had been operated on for cataract, and who every night after atropia had been dropped into his eyes had a violent attack of fever with intense delirium. M. Galezowski quotes the case of a patient who collapsed and lost consciousness after the use of this drug. The following are the characteristic symptoms of atropia poisoning: dryness of the mouth and throat, unquenchable thirst, loss of taste, feeling of numbness in the face, excessive mydriasis, cephalalgia, vertigo, giddiness, photopsia, and delirium. It seems as if in general the anti-atropic idiosyncrasy is determined by the primary affection of the eye, although cases have been observed where it showed itself only after a prolonged treatment, or even suddenly after iridectomy had been performed or the patient operated on for cataract.

M. Peltier quotes in his thesis the following cases where the idiosyncrasy suddenly showed itself after an operation.

A woman, aged 46, who was suffering from double iritis and interstitial keratitis, had iridectomy performed by M. Galezowski, who prescribed two drops *per diem* of a collyrium containing one centigramme of neutral sulphate of atropia dissolved in ten grammes of water. On the first day, the patient complained of dryness in the throat and intense headache. The next day, the treatment was continued and the patient complained still more. The collyrium was then stopped, and the symptoms disappeared at once. Two months later, one drop of collyrium containing two centigrammes of the neutral sulphate of atropia in ten grammes of water, was given, and as it gave rise to the same symptoms the treatment had to be given up.

The same phenomena occurred in a man aged

24, after iridectomy, and in another aged 44, who had been operated upon for granulations of the conjunctivæ. The first drop of the collyrium caused intense peri-orbital pains and a violent conjunctivitis. A woman, aged 53, had been operated on for a lacrymal ectropion, three drops daily of collyrium, containing the usual proportion of atropia, were prescribed. The next day the patient complained of violent peri-orbital pains, photopsia, and sleeplessness, as well as dryness of the mouth and throat. Two days later, the symptoms had increased, and eczema of the eyelids had set in. The atropia was suppressed and the patient recovered. M. Galeowski quotes the following observations in his *Recueil d'Ophthalmologie*.—A young girl, aged 24, who was suffering from an abscess in the centre of the right cornea and violent pains in the peri-orbital region, was treated with leeches and a collyrium, containing two centigrammes of atropia. After ten days she felt weak, her arms trembled, her throat was dry, she had high fever and was delirious every night, and saw everything red (a very rare phenomenon). Her principal complaint, however, was a continuous feeling of nausea and giddiness, which only ceased when the treatment had been stopped.

Another case, is that of a child, aged three years, suffering from hypopyon and a central abscess of the right cornea, who was treated with the usual dose of atropia. For twelve days all went well, when the mother said that her child had been delirious and had had convulsions during the whole of the preceding night, after the atropine had been dropped into her eye. Instead of three drops two were then given, and during the following five nights the child was delirious, asked for something to drink throughout the day, and moaned continuously, pointing to its forehead as if it were painful. The atropia was stopped, and the symptoms suddenly ceased.

Death has been seldom known to follow in those cases of poisoning. Desmanes only quotes one instance of it, where the patient, an infant, aged four months, died of convulsions after the use of a lotion containing the usual dose of atropia. In another case, the patient, an old lady, became violently excited and attempted to destroy herself. Cessation of the treatment immediately restored her to her normal mental condition.

Dr. Meyer, one of the leading oculists of Paris, has recorded the following cases which came under his immediate notice.

A painter had been for some time under Dr. Meyer's treatment for acute iritis of the left eye, and had used a collyrium containing four centigrammes of sulphate of atropia and ten grammes of water. He had been told to use great precautions every time he applied the drug, compressing the puncta lacrymalia, keeping the eyelids closed for a few moments, because movement of the eye tends to increase the action of the lacrymal ducts; also to wash his eye carefully with warm water after opening the eyelids. This treatment had been carried out successfully for more than a month, when suddenly the general state of the patient became alarming; his eye was better, but his temperature was very high, he had no appetite, complained of feeling ill, slept badly, was delirious, and had optic hallucinations. As the pupil of the right eye (the healthy one), was dilated it was suggested that atropia might possibly be at the bottom of this state of things. The patient being closely questioned, confessed that he had neglected to carry out the doctor's prescrip-

tions during the last week. The drug was not administered, and the patient soon recovered. In some cases atropia may be dispensed with without any detriment to the eye, if such alarming symptoms should appear; but in other cases when it is absolutely necessary that the patient should be treated with atropia, the medical man is placed in rather a dilemma, as, e.g., in cases of iritis. Dr. Meyer has attempted in similar cases to counteract the dangerous effects of atropia by hypodermic injections of morphia, and has always found this answer very well. If the injection is made at night, the patient may use the atropia during the day without experiencing any bad results.

The following case of Dr. Meyer also tends to prove the antagonistic action of morphia towards atropia. The patient had been operated upon for cataract by discision, and used a solution of atropia for the purpose of keeping the pupil dilated while the cortical substance was being absorbed. As he happened at the same time to be taking a solution of arsenic for his general health, he mistook the drug, and one day swallowed by mistake fifteen drops of the atropia solution three times. He was in a most alarming state when seen by Dr. Meyer, had lost his voice, could not swallow, had vertigo, hallucinations, and was tormented by an incessant desire to micturate, which he could not satisfy. An injection of morphia was then given, and twenty-five minutes later the patient was able to pass his water. An hour and a half later on, the symptoms of intoxication reappearing again, a second injection was administered, followed by a third in the course of the night. The next day the patient had completely recovered. The question has naturally arisen whether the poisonous drug is really absorbed through the lacrymal ducts, and subsequently through the mucous membrane of the digestive tube, or if the absorption does not rather take place through the conjunctivæ, which are known to possess very rapid powers of absorption. This question has not yet been answered satisfactorily, and the opinions of authors vary much on the subject.

As atropia is apt to give rise to such troublesome and dangerous symptoms, the desire has naturally arisen to discover some other substance which possessed all its efficient properties without its drawbacks, and might be used in its place. Several alkaloids have been suggested, such as daturine, hyoscyamine, eserine, duboisia, gelseminium, and chlorhydrate of pilocarpine.

Von Wecker thinks that eserine will take the place of atropine in the treatment of affections of the cornea, for the following reasons:—1. Eserine lowers the ocular pressure, while atropia increases it by dilating the vessels. 2. Eserine diminishes the secretion of the conjunctivæ by contracting the vessels, while atropine increases it. 3. It reduces diapedesis, but atropine, by pushing the iris back towards the corner of the anterior chamber, is apt to retain in the eye fluids which ought to be allowed to flow out. Meyer and Galezowski have both used duboisine with great success in cases where atropine could not be tolerated. It is, however, a curious fact that in some patients duboisine has produced conjunctivitis, and had to be replaced by atropine, which did not cause any evil results. It has also once or twice given rise to general symptoms of poisoning.

Chlorhydrate of pilocarpine seems to act very much like eserine in affections of the cornea.

Schroff in comparing the therapeutic effects of atropine, daturine, and hyoscyamine, says that the

two latter are less apt to produce dryness of the throat and skin, etc., than the first. The delirium caused by atropia is a very violent one, the patient is apt to burst suddenly into fits of uncontrollable laughter and to throw himself about wildly, while the delirium caused by hyoscyamine is of a calmer nature, the patient feeling inclined to sleep and rest. Neither does it cause paralysis of the sphincters of the rectum and the bladder like atropine and daturine, although it acts powerfully upon the sphincter of the iris.

Last, but not least, chlorhydrate of gelseminium may be safely used instead of atropine; it dilates the pupil, and does not paralyse its powers of accommodation for more than thirty hours. This is very convenient for the patient, as he is then enabled to resume his general occupations, and read or write, which is of course entirely out of question after atropine has been dropped into the eye.

MEDICINE.

RECENT PAPERS.

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- BIANCHETTI.—Case of Disease of the Heart, with Multiple Lesions. (*Gaz. Med. Ital. Prov. Venete*, Jan. 1879, No. 4.)
- BEARD.—Nervous Diseases connected with the Male Genital Function. (*New York Med. Record*, Jan. 25, 1879.)
- COZZOLINO.—On Ozæna. (*Giornale Internaz. di Scienze Med.*, Dicembre, 1878.)
- CAMPBELL.—Paracænesis Thoracis. (*Canada Lancet*, Jan. 1, 1879, No. 5, Vol. xi.)
- CLARK.—Variety of Pulmonary Phthisis. (*Ibid.*)
- HUCHARD.—On Pulmonary Thrombosis as the cause of Death in Cachexia. (*Union Méd.*, Nos. 9 and 10, Janvier 1879.)
- HEWITT.—Phosphorus combined with Malaria the cause of Yellow Fever. (*Louisville Med. News*, Jan. 11, 1879, No. 159, Vol. vii.)
- HARDY.—Cirrhosis of the Liver. (*Gaz. des Hôp.*, Jan. 28, 1879, No. 11.)
- HOWARD.—Contraction of the Right Side of Abdomen. (*Canada Med. and Surg. Journal*, Jan. 1879.)
- HAMILTON.—The Hysterical Simulation of Organic Nervous Disease. (*St. Louis Med. and Surg. Journal*, Jan. 1879.)
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- LILIENFELD.—Death caused by Excess in Eating Green Fruit. (*Memorabilien*, No. 12, Vol. xxiii.)
- LELOIR.—Two Cases of Brachial Monoplegia. (*Gaz. Méd. de Paris*, Jan. 25, 1879, No. 4.)
- LANDOUZY.—On a Case of Lethargy caused by a Magnet. (*Progrès Méd.*, Jan. 25, 1879, No. 4.)
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- MILLS.—Tumour of the Brain. (*Phil. Med. Times*, Jan. 18, 1879.)
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- POST.—Cases of Varicose Veins of the Lower Extremities. (*Med. Rec.*, Jan. 18th, 1879, No. 3, Vol. xv.)
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- ROUTIER.—Poisoning by Phosphorus and Ammonia. (*France Méd.*, No. 8, Jan. 25, 1879.)
- RENDU.—Case of Gliosarcoma, Simulating Meningitis Tuberculosa. (*Union Méd.*, Jan. 28, 1879, No. 11.)

- SÉE.—Anæmia. (*Gaz. Méd. de Paris*, Jan. 1879, Nos. 2, 3, 4, 5.)
- SCHMIDT.—Echinococcus of the Lungs. (*Med. Chir. Centralblatt*, Jan. 1879, No. 3.)
- STRÜMPPELL.—Case of Anæsthesia. (*Ibid.*)
- STILLÉ.—Acute Articular Rheumatism. (*Med. Record*, Nos. 2, 3, Jan. 13, 18, 1879.)
- SHAW.—Case of Progressive Muscular Atrophy. (*Journ. of Nerv. Diseases*, Jan. 1879, No. 1, Vol. iv.)
- Typhoid Fever in Munich in 1877. (*Acritisches Intelligenzblatt*, Jan. 21, 1879.)
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- WARREN.—Symmetrical Gangrene of the Extremities. (*Boston Med. and Surg. Journal*, Jan. 16, 1879, No. 3.)
- WAID.—Scirrhus of the Pancreas. (*Buffalo Med. and Surg. Journal*, Nov. 1878, No. 4.)

CUFFER ON AORTITIS ACCOMPANIED BY NEURITIS OF THE CARDIAC PLEXUS.—(*La France Médicale*, January 22.)

The patient, a woman, 45 years of age, was admitted into La Pitié last November under the care of Dr. Pétér. She had suffered for six weeks in the precordial region as if she had "a bar across the chest"; soon the pains radiated towards the neck, the shoulder, and the left arm, and a feeling of numbness extended down this arm even to the little finger. From time to time she had pains in the left jaw, and some difficulty of swallowing about the upper part of the œsophagus. These pains were continuous from the commencement, but with well-marked exacerbations, resembling in every respects attacks of true *angina pectoris*. On examination, the places above mentioned were found somewhat painful to the touch, and the pain was increased by pressure. Upon compression of the vagus and phrenic nerves in the neck on the left side, very severe pain was felt, not only at the point of compression, but also in the cardiac region, especially at the base. Moreover, a peculiar pain was felt on pressure with the finger in the intercostal spaces along the left border of the sternum. Finally, the attachments of the diaphragm on the left side were very painful on the slightest pressure. These characteristic pains became very violent at certain times, and then the stomach became distended, the respiration manifestly impeded, the heart's action excited, and the surface temperature lowered. M. Pétér considers the continuity of the pain, with the occasional exacerbations, resembling attacks of ordinary *angina pectoris*, as of diagnostic value and symptomatic of the lesion, which he names *neuritis of the cardiac plexus*, with concomitant *neuritis of the phrenic nerve*. To the inquiry, what gave rise to this neuritis, the answer is inflammation (aortitis) and dilatation of the aorta. There is a very notable bulging of the chest-wall below the left clavicle; percussion here is painful, but, by means of the plessigraph, it can be made out that the aorta in this region measures 9.5 centimètres in width. The origins of the subclavian arteries are raised so that they are felt beating in the neck much more strongly than is normal. There is neither

pulsation nor bruit, nor thrill over this prominence. The area of cardiac dulness is increased; there is no evidence of mitral or aortic insufficiency; the only abnormal murmur heard is a soft systolic soufflé at the base. There obviously exists aortitis, with dilatation, situated principally in the arch of the aorta. There is tenderness on percussion behind, along the left side of the spine in the dorsal region. This is looked upon as another sign of aortitis. There is also evidence of pressure on the left bronchus, and the left brachio-cephalic vein. There is almost complete absence of respiration over the left lung, and there is œdema of the left hand. There is but little difference in the radial pulses.

The treatment, which has been attended with so much benefit that the patient thinks herself cured, consisted in the application of flying blisters to the cardiac region, followed by that of permanent cauteries.

ROUSSELOT ON SOME PECULIARITIES IN THE NIGHT SWEATS OF PHTHISIS.—The author (*Revue Médicale de l'Est*, January 15, 1879) regards the night sweating of phthisis as entirely subordinated to the pyrexia, the variable course and evolution of which it closely follows; he looks upon it as an effort of nature to moderate and reduce the febrile movement by a diversion to the surface. He also maintains that if, when there exists a considerable rise of temperature, there be no nocturnal perspiration, we get a diversion towards the intestinal surface, and diarrhœa appears. Moreover, we often observe a curious alternation of these two phenomena, one appearing when the other disappears, and *vice versa*. Hence, he concludes, that it is not always right to check the sweatings, especially when they come on at the commencement of phthisis, and accompany a rapid evolution of the pulmonary tuberculation with high fever and active pulmonary congestion. That in such case, to attack the perspiration is to attack the effect not the cause, and it is not likely, therefore, to be attended with success. But when abundant sweatings occur together, with a normal flow of urine and frequent diarrhœa, then it is necessary to direct our therapeutic efforts to arrest the excessive drain on the system.

J. BURNEY YEO.

BUCQUOY ON ELECTROLYTIC TREATMENT OF ANEURISMS OF THE AORTA.—At the meeting of the Académie de Médecine on January 21, 1879, Dr. Bucquoy communicated the following interesting observation. The patient was a woman aged 58 years, in whom suddenly an aneurism of the ascending aorta had developed itself. Two years later, pulsations could be detected in the tumour, which bulged out considerably on the right side of the thorax, and spread over the second, third, and fourth intercostals, completely covering the ribs and their cartilage, so that they could no longer be felt. Seeing the eccentric and lateral position of the aneurism, and urged by the impending peril, M. Bucquoy resolved to try Ciniselli's electrolytic treatment for aneurisms. The first sitting took place on the 12th of June 1878. Dr. Dujardin Beaumetz assisted, and the operation was carried out according to his modified proceeding. Two needles were plunged into the most prominent parts of the tumour to the length of two and a half centimètres, and brought alternately into contact during five minutes, with the positive pole of a Gaiffe's pile, the negative pole of which was applied to the patient's thigh. The current was allowed to

pass through her body for about twenty minutes. During the operation she complained of very violent pains, which were followed by an inflammatory tension of the tumour, making the latter very painful to pressure. But at the same time the general and functional troubles were lessened, the dyspnoea had decreased, and the patient could sleep. A fortnight later, a second sitting was followed by the same phenomena, but the tumour collapsed markedly. After three more operations it had almost become solid, and the patient was well enough to leave the hospital and return to her work. Two months later, she again presented herself, complaining of a general feeling of lassitude, and of shortness of breath. The aneurismal sac again increased in size, but was not nearly as large as when first seen. Four more sittings were then held, and finally succeeded in reducing the aneurism to its present state. The bag has collapsed, and forms a hard lump, which does not give way under pressure, and is of a fibrous consistency. At the upper end there is a small pointed prominence of the size of a small nut, which pulsates very strongly. The cure is not complete, but there is no doubt as to the possibility of completing it. M. Bucquoy concludes from this and many other cases that electrolytic treatment may prove extremely useful in cases of sacciform aneurisms, adherent to one portion of the coat of the aorta only.

SABOURIN ON A CASE OF PARALYSIS OF THE CUBITAL NERVE.—The following fact is published in the *France Médicale*, February 8, 1879. The patient, C. L., æt. 27 years, entered the Lariboisière Hospital as out-door patient, complaining of an affection of the left arm. He said that two days previously, on waking in the morning, he found that his left arm was, as he supposed, paralysed. He could not exactly say in what position he had been lying when he awoke, but stated that he always went to sleep with his head on his right arm. The arm was also entirely anæsthetic; the patient did not suffer in the least, but could neither extend nor bend his hand or his fingers, which were stiff, and fixed in a particular position. He did not apply to any doctor, but the next day he could move his wrist very slightly, and with great effort. The day after that he made up his mind to go to the hospital, although he said that he already felt much better. On being carefully examined, it was found that the whole of the left arm was perfectly free in all its movements, the forearm was a little bent, but not much, and no stiffness could be felt in the elbow-joint. The axis of the hand was on a line with that of the forearm, the member itself being in a position between pronation and supination. The fingers were a little bent in all their joints, and all at the same angle. The peculiarity which was most striking in the member was the rigidity of the hand and the fingers, which might have been compared to the stiffness of a corpse. The flexor tendons were very prominent on the anterior surface of the wrist. At first sight nothing suggested paralysis; on the contrary, the phenomenon might rather be called a contraction of all the muscles of the forearm and the hand, the latter remaining absolutely fixed in its position when the forearm was moved by force. No trace of any traumatic affection could be discovered on the arm, neither was there anywhere tenderness on pressure. The hand and forearm were completely insensible to pain, while the sensibility of the upper part of the arm, from the elbow-joint upwards, was normal. The patient, being asked to move his hand made such

violent efforts that the perspiration streamed down his face, and at last succeeded in bending the dorsal surface of his hand towards the arm, to an angle of about 45°. The efforts being continued, he could stretch his fingers a little, but both the hand and fingers did not remain long in that position, and gradually returned into the former one. Flexion of the hand and fingers proved still more difficult at first, though the patient succeeded at last. It was impossible to stretch the fingers, and the wrist could only be moved with great difficulty. The faradic current having been applied to the extremity, it was found that the electric contractility of the muscles was the same all over the arm, the contractions being perhaps a little feeble on the forearm. There was nothing in the previous history of the patient which might have thrown light on the origin of this extraordinary affection, neither syphilis, alcoholism, nor overwork, etc. The patient was ordered to rub his hand and forearm repeatedly. When he again presented himself at the hospital a few days later, he was much better. Sensibility had been restored to the whole of the forearm, the hand, and the fingers, with the exception of the fourth and fifth fingers and the corresponding parts of the carpus and metacarpus. All the movements of the forearm and the hand could be executed, but very slowly only; the patient could, however, use his thumb, forefinger, and third finger. He was then faradised and sent home. A week later he came back, almost well, the movements of the little finger alone being perhaps a little feeble and slow. He has not been heard of since.

KOCH AND WACHSMUTH ON A CASE OF TOTAL ABSENCE OF THE SPLEEN.—The following curious fact is related by the authors in the *Berliner Klinische Wochenschrift*, February 10, 1879. On the 6th of December, 1878, in the hospital of Altona, there died a large, strongly-built muscular plumber, who had been received two days before with his son, a lad aged 15, who was ill with typhoid fever. The father was feeling very unwell; his temperature was very high. He had profuse diarrhoea, together with a few rose-coloured spots, suggesting the probability of the same affection from which his son was suffering, especially as he had been nursing him. The spleen, however, could neither be palpated nor percussed, and the examination of the patient revealed only bronchopneumonia of the right side of the chest. At the necropsy, this latter diagnosis having been confirmed, the authors proceeded to examine the spleen, which, to their great astonishment, they could not find anywhere. All the intestines were perfectly normal, as to their size and situation, but there was neither a spleen nor a vessel corresponding to the arte. linalis.

MERCIER ON TYPHOID FEVER AND PERIOSTITIS.—(*Revue Mens.*, January 1879.) Until the present time the relations between the inflammations of the periosteum and typhoid fever have not been much studied. Knowing that abscesses, myositis, suppurating infarcta of the intestines, etc., are caused by the effect of typhoid fever, why should we not admit that the bones and their covering may be affected like the rest of the tissues in this illness? Mercier has observed this complication in seven cases. It comes on during convalescence, i.e., after five or six weeks of illness, when there is no fever, and the patient begins to get up. The most marked symptom of this periostitis is weakness, which

increases, in spite of the good appetite and the normal state of the digestive functions, the tonics, and nourishing food. Generally a member feels at this time heavy, impotent, and benumbed, the leg can hardly sustain the weight of the body, or the movements of the arm and shoulder are limited. The periosteum is swollen and very tender to pressure in some spots. From four to eight days later the patient complains of violent pains; the skin is normal, but the subcutaneous cellular tissue has become cedematous; the periosteum is tumefied, thickens, and grows excessively painful. This tumefaction of the cellular tissue lasts for four or five days, when the symptoms begin to decrease. The pus which has been formed is either reabsorbed or evacuated. In this case the pains cease, and the periosteum remains thick, sometimes the periostitis ends in necrosis of the bone. It is only after these inflammations of the periosteum are entirely over, after the pus has been either reabsorbed or evacuated, that the patient begins to gain flesh and recover his forces, and the illness may be said to be terminated. The etiology of this complication is as yet very obscure, as it seems to come on suddenly, at least apparently so, unless some traumatic affection in some part of the body seems to determine the spot where it will break out later on. So far as the treatment is concerned, the author has found that a blister applied to the tumefied point from the very beginning has proved useful. When the pus has formed, no artificial opening must be made to evacuate it, as this might give rise to septicæmia; therefore it is better to let the pus either be reabsorbed or spontaneously evacuated.

VERNEUIL ON AMYGDALITIS.—The author asserts (*Gazette des Hôpitaux* and *Lyon Médical*, No. 9, March 2, 1879) that the purulent focus which invariably develops during the last stages of amygdalitis is not situated in the interior of the tonsil, but in its vicinity, viz., in the cellular tissue which separates the organ from its groove. The tonsil does not adhere very firmly to this groove, and when tumefied through the inflammation, it bulges out between the anterior and posterior pillars of the velum of the palate, and moves backwards and forwards at every movement of deglutition. This mobility is one of the principal causes of the formation of the abscess. The gland being continually displaced, a serous bag forms in the connective tissue, which stretches between both pillars and occupies the bottom of the groove of the tonsil. In this serous bag the purulent gathering is formed. The abscess is always very deep-seated, and cannot, therefore, easily be reached by a bistoury, as an incision directed in a straight line towards the tumour which the tonsil forms in the isthmus of the larynx would not be able to reach it. To open the abscess it would therefore be necessary to cut through the anterior pillar of the velum of the palate; this pillar, which is much enlarged and protruding, forms the anterior wall of the abscess; but, at the same time, it is highly cedematous, so that in order to pierce it a very deep incision would have to be made, and, in doing this, the carotid artery might easily be injured. It would, therefore, appear that abscesses of the tonsils had better be let alone. They must not be opened, and it is better to wait and allow the pus to make a way for itself through the anterior pillar. Happily the affection never lasts long, and the abscess generally opens spontaneously on the fourth or fifth day.

HOMOLLE ON THE USE OF THE MANOMETER IN THORACENTESIS.—(*Revue Mens. de Méd. et de Chir.*, February 1879, and *Lyon Méd.*, March 1879, No. 12). One of the greatest difficulties met with in the operation of thoracentesis is to know the exact moment when to stop evacuating the liquid. In order to appreciate the modifications to which the intrathoracic tension is subject in pleural exudations, M. Potain has arrived at the idea of adapting a manometer to the apparatus used in thoracentesis. The manometer being in close conjunction with the exudation, it is easy to calculate the progressive lowering of the intrapleural tension and to stop in time, so as to avoid the serious accidents which might result from too rapid a change of the pressure, such as congestion of the lungs, cough, pain, albuminous expectoration, etc.

The pressure which is being measured is the result of the diverse antagonistic or concurrent actions, which go to produce the thoracic aspiration in the normal state. Besides, great attention must be given to the state of the pleura and the lungs, as there may be thickening of the serous membrane, atelectasis, carnification of the lung tissue, etc. Other elements which may produce a change in the intrapleural pressure are; the more or less rigid state of the thoracic walls, the resistance of the mediastinum, and the abundance, height, and weight of the exudations.

The indications of the manometer must be carefully observed at the beginning, during, and after the operation. The initial pressure is almost always positive, but may occasionally go down to 0 or -2° . At times it rises to $0+20$ and $+30$, although the energy of the respiratory movements is not at all exaggerated for the moment.

Another very important observation is, that it is impossible to establish any rule concerning the proportion between the pressure of the liquid and its quantity. In general, high pressures are observed in connection with large exudations, especially when the latter are recent and of inflammatory origin in young and vigorous individuals, while low initial pressures occur under totally opposed conditions, such as ancient exudations, cachectic individuals, etc.

Such troublesome complications as have been mentioned above occur in cases where a great quantity of fluid has been aspirated, the chest walls are very rigid, and the lungs are prevented from expanding by a thickened pleura, etc.—in a word, in chronic exudations. The manometer may serve as a guide to show the exact moment when it will be necessary to interrupt the aspiration of the liquid. As long as the pressure diminishes slowly and gradually, the operation may safely be continued, but it must be suspended when the pressure begins to diminish suddenly and markedly. In general, a gradual lowering of the pressure, combined with copious evacuation of the fluid, is to be considered as a favourable prognosis.

PEYROT ON THE PROGNOSIS IN CASES OF DIABETES COMPLICATED WITH GANGRENE.—The author has arrived at the following conclusions (*Thèse de Paris*, 1878; and *Bull. Génér. de Ther.*, March 15).

1. The prognosis is always more unfavourable in cases where the affection has not been early recognised, or where it has progressed rapidly, and the patient is very weak.

2. Incisions prove very useful in cases where an inflammatory process exists, but aggravate the con-

dition of the patient if he should be suffering from spontaneous gangrene.

3. Surgical intervention is always useless in furunculous anthrax, but necessary in the diffused form.

4. Large incisions may be practised in cases of diabetic phlegmon without perhaps incurring any great risk; with the exception, that the edges of the wound have a strong tendency to mortify. But this plan seldom prevents the wound from healing, and only retards the process of cauterisation.

5. In cases of superficial gangrene the patient's life is seldom in danger, and, as a rule, he recovers.

6. Deep-seated gangrene of the extremities is almost always fatal, being the final symptom of the glycosuric condition; in short, it may be said, that hitherto no case of diabetic pulmonary gangrene has been known to recover, this complication always ending fatally.

SEYDELER ON DIARRHŒA ADIPOSA.—The author publishes the following case in the *Berliner Klinische Wochenschrift*, No. 7, 1879. The patient was a delicate lady of 17, mother of a child one year old. She had been suffering from catarrh of both apices of the lungs, consolidation of the apex of the right lung, coughing, and weakness. After spending the summer in two or three watering places, her health had improved, with the exception of one symptom, frequent diarrhœa, which was not amenable to any remedies. When the author first saw his patient, he found her in bed, looking comparatively well. There was a cavity in the apex of the right lung; she did not cough very much, neither did she expectorate much. Her principal complaints were a feeling of lassitude and diarrhœa. The tongue was clean, anorexia prevailed. The posterior wall of the pharynx felt hard to the touch, and protruded like a tumour; the larynx was free, crepitation and whistling could be heard over both apices of the lungs, bronchophony, and cracked pot (*pot fêlé*) sounds. The transverse diameter of the liver was smaller than in the normal space. The pyloric and right hypogastric regions were tender to pressure, but no nodules or knots could be felt. The pulse was small, 100-120, the temperature regularly rose in the afternoon. The patient lived principally on beef-tea, milk, claret, and water. A month later the author, on examining the motions of the patient, discovered in them large quantities of a whitish fatlike substance. The patient died soon afterwards in the author's absence, so that he was not able to verify his diagnosis of multiple tuberculosis. The fatty masses which the author had collected from the motions of the patient were of different sizes, varying from a French bean to a walnut, either round or spindle-shaped, and white both on the in-and outside. They floated on water and crumbled when boiled. If, after having been previously dried for some days, they were heated on a plate of glass, a large quantity of fat escaped, which soon grew solid; the residuum was a brownish granular substance, which burned to a cinder after the fat had been melted out, and smelt strongly of melted butter. Under the microscope, and when treated with cold solution of caustic potash or ether, peculiar formations could be detected, which Funke has called sebaic acid. The question is, Where did the fat come from in this patient, who lived principally on milk? And how was it that she did not lose more flesh and present a more emaciated appearance after this enormous loss of fat? May it not be supposed that in this case

tuberculous degeneration, having spread to the organs whose principal function is the digestion of fat, viz., the liver and pancreas, greatly impaired these functions, and that the milk, *sit venia verbo*, having been churned in the stomach and intestines, left the latter in the form of butter?

LABARRIÈRE ON SCLEROUS BASILARY MENINGITIS.—Dr. Labarrière has published in his thesis (*Thèse de Paris*, 1878, and *Bulletin Général de Thérapeutique*, December 15, 1878) ten cases of this peculiar affection, which is seldom met with in private practice, and therefore rather difficult to diagnose. The only certain etiology of sclerous basilar meningitis is tertiary syphilis. The plaques compress the cranial nerves, thereby giving frequently rise to paralysis of the motor nerves, and sometimes of the sensory nerves. These paralyses are, with very few exceptions, permanent. This form of meningitis is generally accompanied by encephalic complications, some of which are of a syphilitic origin, and independent of the meningitis, while others result from the latter. In spite of its clearly defined syphilitic character, a specific treatment has very little effect on the meningitic exudation, and the patient seldom recovers from it. The most important point, therefore, in the treatment is to prevent the exudation from forming, and a very energetic antisiphilitic treatment must be at once begun with a patient with a history of syphilis, in whom we find a paralysis of some cranial nerve complicated with persistent headaches. The author strongly recommends in such cases mercurial frictions, combined with iodide and bromide of potassium, taken internally, Van Swieten's liquid, or a seton in the region of the neck, etc.

BLACHEZ ON SCLERODERMA.—At the meeting of the Société Médicale of the Hospitals of Paris on the 13th December, reported in the *Progrès Médical*, 15th March, 1879, M. Blachez presented a patient 34 years old, suffering from scleroderma. After having experienced a feeling of numbness in the hands and nervous disorder for two or three months, he found himself suffering from growing puffiness of the hands and feet. This œdema, temporary at first, soon became permanent, and lasted from four to six months. Then only did the hardening of the skin begin, which manifested itself especially in the hands and feet, then in the legs, the belly, and, later, the face. No trouble showed itself of sensation or of motility. During the last fifteen days only some pigmentary spots had appeared on the hands; meantime, the health remained excellent. To sum up, this man had passed through three distinct phases—first, nerve disorder and numbness; second, a period of œdema and effusions; third, a period of localised induration. Dr. Blachez had employed friction with iodine ineffectually during the first period. He had not used electricity, which had been recommended in certain forms of scleroderma by Dr. Armaingaud. M. Vidal had observed similar phases in persons affected by scleroderma, but the œdema was not a constant phenomenon. Electricity had not given him any good results. Warm douches to the spinal column had appeared to succeed. His treatment was in favour of the opinion which considered scleroderma as a disorder of the nutrition of the nerves. Dr. Blachez had not found any painful point about the spine in his patient. There was no asphyxia of the extremities. The local temperature had not been examined.

AUBAIN ON PLEURITIC EPILEPSY AND HEMIPLEGIA.—In 1875, M. Raymond read before the Société des Hôpitaux two very interesting observations on the subject of patients who were suddenly seized with convulsions and hemiplegia, some time after having been operated upon for empyema, while injections were being made into the pleura. Several similar facts have since been observed which M. Aubain has, together with a case which had come under his own observation, worked up very successfully in his thesis (*Thèse de Paris*, 1878, and *Journal de Médecine et de Chirurgie*, February 1879). The *modus operandi* is as follows. A patient who has been suffering from purulent pleurisy, and on whom the operation for empyema has been performed, has his wound washed out every day with some disinfectant. He bears these injections without experiencing any inconvenience or pain for a month, six weeks, or more, when suddenly, without any premonitory warnings, the patient, who is sitting up in bed while the injection is being made as usual, falls backwards in a state of imminent syncope. In a very short time convulsive spasms come on; they are almost always universal, but generally stronger on the side which corresponds to the empyema. The patient's teeth are set, the pupils, which have at first been contracted, are subsequently dilated. The tonic convulsions are followed by contractions; the breathing becomes stertorous, the patient foams at the mouth; urine and feces are passed involuntarily; he remains in a state of epileptic coma for half an hour or an hour, when he again recovers consciousness. Sometimes nothing more occurs, or another similar fit may supervene the same day, or two or three days later, without any injury to the patient. But in some very serious cases the patient does not recover consciousness; fit follows fit; the contractions persist; in a few cases opisthotonos has been observed, and the patient dies in ten or fifteen hours. This is termed pleuritic epilepsy. In some cases, however, another phenomenon has been observed in connection with those already mentioned, viz., hemiplegia. It may affect only one of the lower or superior extremities, or the face, the paralysed members always being on the side which corresponds to the empyema. Motility is seldom entirely abolished, so that the affection might perhaps rather be defined as a certain degree of paresis, without any distinct disturbances of the sensibility. It is transitory, and if the patient recovers from the attack it also disappears a few days later. Lastly, there is a third class, in which the hemiplegia comes on gradually without any preceding convulsions. The symptoms are the same as above, but the affection always disappears entirely after a certain time. That these accidents are very dangerous is demonstrated by the fact that four out of the ten cases mentioned by M. Aubain have terminated fatally. At the necropsy, no cerebral lesion which might account for the fatal issue could be discovered; the pathogenesis of the cases is also very obscure. It is very curious that these accidents should always happen when the patient is almost convalescent, and at the moment when the injection is being made. In order to avoid this complication great care should be observed in making the injections into the pleura. Very small quantities of the liquid must be injected at the time, and not too much force used in the operation.

DOWSE ON VASO-MOTOR AND TROPHIC NEUROSES.—Dr. Dowse (Medical Society of London) commenced his paper by stating that, under the

head of nervous disorders, was embraced not only our objective material and volitional parts, but also the co-relation of these with subjective as well as mental morbid processes, in the consideration of which there was a field for study and reflection of which he had no hesitation in saying that, up to the present time, the mind of man had but a feeble, and, withal, very incomprehensive grasp. The nervous system embraces a chain of phenomena by which were linked together every part of our conscious and unconscious being, and it was impossible for us, even at the present day, to say how far and by what means these were intimately associated. In reference to the vaso-motor centres, he referred to the prize essay of Eulenburg and Guthman, wherein they state that certain well-known investigations had placed it beyond doubt that the vaso-motor centrum for most parts (including the head) was in the medulla oblongata, and, further, not only have Budge's former experiments proved the influence of the pedunculus cerebri on the vessels of the opposite half of the body, but their own investigations showed that certain defined localisable vaso-motor districts existed on the surface of the brain in dogs, in the upper part of the cortical substance; and the experiments of Goltz upon the sciatic nerve and lumbar part of the spinal marrow of dogs had proved that there were two kinds of fibres governing the movements of vessels, the one dilating, and the other contracting them. It was by the due correlative action of these nerves that the tone of the vessels and nutrition of parts was maintained.

In speaking of trophic nerves he stated, that up to the present time they had not been made evident to us by dissection, yet from analogy it was quite rational to infer that they had an existence quite independent of those nerves which merely controlled the circulation; for it had been shown by Claude Bernard, M. Ollier, and others, that the branches of the sympathetic nerves may be divided without producing any alteration in the nutrition of parts through which they ramify, although the resulting congestion be intense and prolonged; and that it followed, as a rule, that the congestions arising from paralysis of the vaso-motor nerves and derangements in the nutrition of parts were, as a rule, as far as clinical teaching and experimental physiology showed, quite independent of each other; and "M. Brown-Séquard had shown that paralysis of the vaso-motor nerve might be carried so far that not even a drop of blood flowed on pricking the skin; that the vitality decreases, and the parts become pallid and cold, but no changes in nutrition occur".

It was not uncommon to find cases, notably amongst hysterical patients, where there was a very intense and persistent check to the circulation; yet troubles of nutrition did not arise under these circumstances, so that we were compelled to fall back upon what he admitted was in a measure theoretical. "That there was a set of nerves intimately associated with compound cerebro-spinal nerves which had an especial function in regulating and controlling nutritive processes."

We had no better established fact in the whole range of nerve-pathology than in those disorders of nutrition of distant parts of the body which resulted from destruction to brain-tissue by vascular changes, and that these took a direct course in conformity with the histological direction of the nerves implicated, and that deaths arising from this cause were often more frequent than from the primary seat of disease in the brain and spinal cord. By way of

examples, he referred to bed-sores and to the rapid destruction of the mucous surface of the bladder and urinary tract. He pointed out that consecutive lesions of nutrition to central brain disease sometimes deceived the physician, who mistook them for the disease itself. Dr. Dowse continued his paper by drawing attention to the parts played by the vaso-motor and trophic nerves in hemiplegia, angina pectoris, facial hemiatrophy, and pseudo-muscular hypertrophy.

MATERIA MEDICA AND THERAPEUTICS.

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- FARGAS, M. A.—Nuevo Aparato para la Transfusion de la Sangre, del Dr. Coll y Pujol. (*Rev. de Cienc. Méd.*, Barcelona, iv, pp. 493, 529, 1878; v, p. 19, 1879.)
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- MAYOR.—Quelques Observations d'Éruptions Cutanées Provoquées par le Chloral. (*France Méd.*, xxvi, pp. 18, 27, 1879.)
- MONTAGAZZA.—Pulverised (Atomised?) Sea Water. Translation from La Scuola Medica Napolitana, Nov. 1878, by John del Orto. (*New Orleans Med. and Surg. Journ.*, n. s., vi, p. 647, 1879.)
- NEWINGTON, T.—Feeding by the Nose. (*Lancet*, Lond., i, p. 83, 1879.)
- ROBINS, R. P.—The action of Brucia on the Motor Nerves. (*Phila. Med. Times*, ix, p. 228, 1879.)
- PAVESI, C.—Dei Canforati e Specialmente del Canforato di Morfina. (*Indipendente*, Torino, xxx, p. 37, 1879.)
- SIMMONS, D. B.—An Extraordinary Case of Toleration of Opiates in an Infant, and Tenacity of Life without Food for Thirty Days. (*Amer. Journ. Obst.*, New York, xii, p. 147, 1879.)
- VIMONT.—De l'Emploi de la Digitaline en Injections Hypodermiques. (*Journ. de Thérap.*, Paris, vi, p. 41, 1879.)
- WIRKUNG (Ueber die) des Aloins auf Subcutanem Wege. (*Pharm. Post*, Wien, xii, p. 5, 1879.)

HÖGVES ON THE ACTION OF IODOFORM.—(*Archiv für Experiment. Pharmacologie*, x, 3 and 4). The author's purpose is to arrive at a permanent settlement of the discrepancies between the statements made by previous enquirers concerning the toxic and narcotic properties of the compound in question; further, to test the statements recently made by Binz with regard to its mode of operation. The following is a summary of the chief results of his inquiry. 1. Iodoform, in adequate doses, is fatal to dogs, cats, and rabbits. Death is caused by a gradual paralysis of the circulation and respiration;

it is preceded by wasting of the body, but not by convulsions. 2. After death, we find fatty changes in the liver, kidneys, heart, and voluntary muscles. One or two hæmorrhagic extravasations are almost always present in the lower lobes of the lungs. 3. Large doses cause marked drowsiness in the dog and cat; no such effect is witnessed in the rabbit, even after a lethal dose. During the period of somnolence, reflex irritability does not appear to be much interfered with. 4. What changes does iodoform undergo before its absorption? If it is introduced in an undissolved condition, the first step is its solution in whatever fatty matter may be at hand (in the intestines, the oily ingredients of the chyme; in the subcutaneous tissue and the serous cavities, the oily constituents of the tissue-juices and serous liquids). The oily solution of iodoform next gives up its iodine to any albuminous principles that may be present; the iodide of albumin thus produced is speedily taken up into the blood, while a few minute coagula and colourless oil-globules are left behind. 5. Precisely the same series of changes occurs when a solution of iodine in oil is injected under the skin or into a serous sac. 6. An iodide of albumin prepared by mixing white of egg with a solution of iodine in sodium iodide, produces narcotic effects in the cat and dog, just like iodoform; like this, moreover, it fails to produce them in the rabbit. 7. Whether we administer iodoform, iodine dissolved in oil, or iodide of albumin, the iodine is gradually eliminated from the system in combination with the alkali-metals. Broadly, we may regard the action of iodoform, locally applied, as equivalent to the prolonged and gradual influence of iodine. Its action on the system after absorption is likewise, in the main, that of iodine, but with some hitherto unexplained peculiarities. E. BUCHANAN BAXTER.

A NEW METHOD FOR CUPPING EXTEMPORE.—The following practical advice is published in the number for December 1878 of *Il Morgagni*. Take a piece of common paper of the size of the opening of the cupping glass and dip it into warm water before applying it. The paper being damp, the skin is kept cool, and prevents by the evaporation of the water the too extensive spreading of the vacuum. If the same piece of paper be used twice, it must be dipped in water before the second application. As far as the cupping-glasses are concerned, a large number of household articles which can be had everywhere, such as tumblers, jam-pots, etc., may take their place if the paper be applied to them in the way we have described. Half-a-dozen similar recipients, which are from three to five inches deep and wide, if applied at once, and the vacuum renewed every two or three minutes, will in about a quarter of an hour produce a most prodigious effect.

MICHAEL ON SINGING IN THE EARS TREATED BY NITRITE OF AMYL.—The author, who was well acquainted with the sedative influence of nitrite of amyl on the sympathetic system, and especially on the vaso-motor nerves, resolved (*Archives Med. Belges*) to try whether it would not prove equally successful in singing in the ears, and eventually obtained good results in nineteen cases out of twenty-seven.

From two to five drops of nitrite of amyl were inhaled in one dose. The inhalation was continued as long as the following symptoms lasted, viz., a flushed face and injection of the vessels of the eye, and was discontinued the moment the patient began to feel

giddy. It was noticed that all the patients who subsequently improved complained that the noise in the ears increased during inhalation, but as soon as the flush began to disappear on the face, the ringing noise decreased, and was less than before the inhalation. In some patients the improvement lasted only one hour, in others for some weeks, but as a rule it lasted from two to ten days. A second inhalation, if not made too soon after the first, had much more marked effects. The author thinks that at least two days must be allowed to elapse between two inhalations; and that the second must not be taken in cases of acute catarrh, or where the singing noise is due to some mechanical cause.

TIDD ON THE USE OF CHLORAL IN A CASE OF RETENTION OF THE URINE.—The patient (*Archives Méd. Belges*) was a young woman in the eighth month of pregnancy, who thought that she had been in labour for twenty-four hours, and had not passed urine during the whole time. The bladder was enormously distended, and protruded far above the os pubis and into the vagina, so that it was impossible to reach the neck of the uterus with the finger. The external genital organs were considerably swollen and the pain most violent. Unsuccessful attempts were made repeatedly to introduce the catheter, but the organs were so swollen that it was impossible to pass any sound into the bladder. It was then proposed to puncture the bladder, fearing it might burst, but as this was objected to, Dr. Tidd resolved to try chloral, which had been used successfully by some surgeons in similar cases. Accordingly, a solution was prescribed, consisting of ten grammes of chloral dissolved in sixty grammes of water, and given by teaspoonfuls first every half hour, and then after two hours. The patient soon fell into a deep sleep, during which she passed unconsciously an enormous quantity of urine. Seven days later, she gave birth to a healthy child, and has not since suffered from retention of urine.

MENDESSOHN ON THE USE OF CREOSOTED GLYCERINE IN ULCERATIONS OF THE NECK OF THE WOMB.—Mendessohn says (*Revue de Thérap. Méd. Chir.*, Feb. 15, 1879) that he has derived much benefit from painting the ulcerated portions of the neck of the womb with the following solution:—R, pure creosote, 2 grammes; glycerine, 50 grammes; alcohol, 25 grammes. This was applied either every day or every other day, for a length of time varying from twelve to forty days.

Thirty-seven patients in all were treated; twenty-eight were suffering from simple ulcerations or erosions; twenty-six of these recovered, and two improved much in health. Of seven cases of granular and fungoid ulcerations, six recovered and one improved. The mean number of days they were under this treatment was seventeen; only one patient remained under it for forty-four days, as in her case there was a complication arising from a metritis with considerable leucorrhœa.

Two cases of chancrous ulcerations were treated with creosoted glycerine for thirty to forty days, without success, so that the author was obliged to recur to iodoform, which induced speedy recovery.

BAUER ON EMOLLIENT INJECTIONS IN GONORRHOEA.—Dr. Bauer, of St. Louis, says:—I rarely resort to internal treatment, since the disease is simply local. The injection which I apply in the acute cases is as follows: R Inf. sem. linii (ex. 3 iij

parati), 3 vj; Cui adde ext. opii. aquosi, fl. gtt. xvijj. M.S. To be injected warm every three hours and retained for a few minutes. This injection is not only emollient, but sufficiently viscid to cover the bare urethra with a protecting coat, and sufficiently narcotic to soothe the irritated nerve papillæ. It is advisable first to clean the urethra with a warm water injection. Without exception, the patients at once felt relieved, and the discharge commenced to diminish. Toward the end, the injection might be alternated with a very weak solution of the acetate of lead, say one-third of a grain to the ounce of liquid, which seems sufficient to dry the secreting surface and to complete the cure.

BUNTON ON THE TREATMENT OF SPRAINS BY HOT-WATER.—Dr. Bunton (*Philadelphia Medical Reporter*, Jan. 18) writes:—There is one application which I will tell you of, and recommend to you; it is the use of hot water. I do not know that it is particularly new, but I am sure that it is not in as general use as it might be. A good many years ago, I was, one morning, passing a theatre, where, standing on the steps, I saw that most excellent surgeon, since gone, Dr. Paul B. Goddard. He called to me, and asked me if I knew how to treat a bad sprain, adding, "Come in, and I will teach you something." I went in, and then found that a star foreign actress, a large, heavy woman, had just turned her ankle, was suffering greatly, was unable to take her part in rehearsal, and it was feared would not be able to sustain her rôle in the evening's performance. Dr. Goddard directed her to place her foot and ankle in a bucket of hot water, when more hot water was slowly poured in from a kettle, until the highest endurable temperature was reached. The limb was then retained in position for some fifteen minutes, the pain gradually decreasing until it passed away. As the pain vanished, the motion returned, and the lady was enabled to play her evening's part without a limp, and without pain. This case made a great impression on my mind, and I tell you the anecdote for the sake of the moral contained, viz., the early use of very hot water in sprains, particularly of the ankle joint.

RENÉ ON THE PHYSIOLOGICAL ACTION OF NICOTINE (*Thèse de Nancy*, 1878).—The author of this interesting thesis, which has obtained an honourable mention from the faculty of Nancy (*Rev. Med. de l'Est*, No. 4, February 15, 1879), has wisely abstained from traversing too wide a field of researches. He has omitted the action of nicotine on the heart and circulation, and restricted himself to the changes which occur in the nervous and muscular systems after the drug has been introduced into the body. The thesis is divided into three parts, the first is a historical sketch of the different opinions which have prevailed on the effect of nicotine at different times; the second part contains a detailed account of the author's experiments, and the third a detailed analysis of the results he has obtained. One hundred and seventy-two experiments were performed on frogs principally, then on dogs, cats, rabbits, guinea-pigs, mice, pigeons and a snake. The poison enters the system by every avenue, and always produces quickly the characteristic toxic symptoms. If injected through the veins the effect is as quick as lightning. This statement rather contradicts what has been universally assumed about the slower action of the hypodermic injections or the quicker action of nicotine given as an enema.

The immunity which certain animals are said to possess against it has not been proved, but the poisonous dose is not proportionate to the weight of the animal.

The intoxicated muscle loses, almost immediately after it has been pervaded by the poison, the power of contracting when stimulated by the galvanic current; the action of the nerves is also quickly paralysed. This loss of contractility is due to direct intoxication, not to its having reached the maximum of contraction. The nervous motility is destroyed first and has ceased to exist when muscular contractility still persists, but the intoxication spreads rapidly from the nerve to the muscular fibre. The central nervous system is first attacked by the nicotine; the first symptoms of this excitation are the spasms, which the author describes in a very characteristic way. They consist in a trembling of the whole body very much like that experienced in a violent fit of shivering; it is a vibration of the muscular wavelets; a trembling of every muscle, or rather of every fibre; a series of tetanic shocks, which follow each other closely but are never united in one contraction. This trembling is principally due to an irritation of the cephalic centres rather than of the medullary centres. This is one of the most characteristic differences between strychnine and nicotine. Sensibility is also diminished or destroyed by nicotine, likewise the reflex power of the medulla; if the doses are not very high the non-striated muscles retain their power of contractility longer than the striated muscles.

After small doses the respiration is quickened at first, then it becomes gradually slower, but deeper and stronger, and stops. The expiration assumes the type which follows section of the pneumogastric nerve, this might lead to the inference that one of these nerves has been paralysed by the action of the drug.

The blood presents a red colouring, which is characteristic of nicotine poisoning, but no particular changes have been detected in it by means of either the microscope or the spectroscope. The spermatozoa become motionless. Bile has no effect on nicotine, which produces the same symptoms, although less rapidly, after having passed through the system of the vena porta. As yet no antidote has been discovered against nicotine; strychnia has long been considered as such, but it only adds its own action to that of the former drug, thus rather increasing the effects of the nicotine, or remains powerless if the nerves and muscles are already paralysed by the poison.

SONNEBERG ON SULPHATE OF SODA AS AN ANTIDOTE AGAINST POISONING WITH CARBOLIC ACID.—Dr. Sonneberg has made the important discovery (*Med. Chir. Centr. Bl.*, March 21, 1879) that in cases of poisoning with carbolic acid, repeated dressings with a five per cent. solution of sulphate of soda are a very efficient antidote. The urine is at first of a dark green colour, with a slight brown tinge, but soon assumes a normal colour, when the dressings with carbolic acid may be resumed without danger.

DROUOT ON THE DIURETIC ACTION OF SQUILL. (*Thèse de Nancy*, 1878.)—M. Drouot has studied the action of squill on the organism, and particularly on the heart, from a large number of experiments made on animals, and from clinical observations, and has inferred therefrom what the therapeutic consequences

of the action will be. In a short historical sketch he shows that there are two principal categories of opinions on the action of squill; one of which maintains that it is a powerful diuretic, and the other, which represents the majority, holds that squill does not exercise any special effect on the kidneys, and only influences the urinary secretion indirectly, by acting upon the heart in a similar way to digitalis. M. Drouot is a warm advocate of the latter opinion, and bases his views on a scientific explanation. The first part of the thesis (*Rev. Méd. de l'Est*, Feb. 15, 1879) contains an account of the author's experiments on dogs and frogs, relating to the action of squill on the heart and circulation. Some of his results confirm the experiments made by Huzemann of Göttingen, while others oppose them. If squill is given in a moderate dose, the pulsations of the heart and the respiration are accelerated, but the former are less ample, and the blood-pressure sinks considerably. This is the initial stage, which has not been described by Huzemann; it is followed by a second stage, during which the pulse and respiration become slower, while the blood-pressure rises to its normal level. If a toxic dose is given, the blood-pressure rises immediately, while the cardiac pulsations become much slower.

The second part of the thesis is devoted to a clinical study of the action of squill. We gather from it that it is a direct diuretic only in cases of dropsy originating from cardiac disease and in cachexia. Is this result due to the action of squill on the heart? It is probable; because in other dropsies, which were owing to alterations of the liver and kidneys, pleurisy or articular rheumatism, the diuretic action of squill has been found to amount to almost next to nothing.

LAFOREST ON THE SYMPTOMS AND TREATMENT OF CYSTITIS OF THE NECK OF THE BLADDER.—The author, after having carefully studied the different forms of cystitis of the neck of the bladder and their symptoms, sums up his results as follows. (*Thèse de Paris*, 1878; and *Bull. Général de Thérap.*, March 15, 1879.)

There are three different forms of cystitis of the vesical sphincters, according to the symptoms. They arise from different causes, and must be treated in different ways. The first form, which is most frequently met with, is comparatively the least troublesome one. It generally lasts from forty to sixty days, and is called "subacute cystitis of the neck". The treatment consists in most cases of simple therapeutical means, though the use of soft bougies will prove very efficient towards hastening the recovery of the patient. A second form of the affection is apt to cause much pain and trouble, owing to frequent attacks of spasms and contractions, which give rise to alternate fits of retention and incontinence of urine; while, at the same time, the desire to micturate becomes so frequent, as to cause the patient serious inconvenience and disturb his rest. This affection lasts generally from six weeks to several months; the author has given it the name of "chronic cystitis, complicated with spasms and contractions". Owing to the fact that it is always brought on by inflammation, this form of cystitis may easily be cured during its earlier stages, but a purely medical treatment will hardly prove efficient enough alone, unless combined with surgical treatment. According to the severity of the case, either progressive dilatation or divulsion, or a local application of nitrate of silver, or even internal urethrotomy, may

be successful. The third class has been simply named "rheumatic or nervous cystitis", as its etiology is very clear; neither urethritis nor blenorragia are present, only a purely rheumatic diathesis. Its duration is from three to six months, but cases have come under observation where it lasted for years; and, finally, ended fatally. The treatment must be a very energetic one; it generally consists in divulsion, internal urethrotomy, and even median lithotomy.

HEDYSARUM GANGETICUM IN DYSENTERY.—Assistant-Surgeon Amrito Lale Deb, writes in the *Indian Medical Gazette* for March: I am desirous to bring to notice the medicinal virtues of the root of *hedysarum gangeticum* in the treatment of dysentery. Within the last three years I have tried this medicine in numerous cases, and I am fully convinced of its efficacy in dysentery. The plant from which the root is obtained enters into the composition of our *Doshomool Panchon* (decoction of ten herbs), which has been in use in the treatment of fever from a very remote period by native *kuberajes*. But the use of the root in dysentery is not mentioned in any of the works on Hindoo medicine, so far as I am aware. The mode of administration of the medicine is simple enough. The root in its fresh state is ground down to a pulp on a curry stone with a little water, and may be given three or four times a day, or every four hours, as the case demands, in doses varying from 30 to 40 grains each time, in adults. It does not produce nausea or any unpleasant sensation on the system. Under its use the motions become feculent, blood and slime disappear, tormina and tenesmus subside, and the patient is gradually restored to health. It is perfectly innocuous, and can be safely given at all ages. In point of medicinal virtue it stands next to *Ixora coccinea*; is especially adapted to acute dysentery of moderate severity. In severe cases, the administration of an open enema is requisite, conjointly with the internal administration of the remedy. I am led to think that, under the use of this valuable indigenous drug, the number of chronic cases will become rare among the natives of this country, and that it will consequently reduce human suffering and the high rate of mortality. Its Bengalee name is *Salpany*. It belongs to the natural order *Leguminosæ*. It grows wild in many parts of Bengal in the rainy season, but can only be found sparingly at other seasons, when cows graze upon it and the branches and leaves are lost by which it can only be distinguished. However, it can be had to any extent and at all times of the year, especially by cultivation. I would earnestly recommend its use in all the hospitals and in private practice in suitable cases, and should its remedial virtues be proved beyond any doubt by professional men, by giving it a fair trial, it will be a valuable auxiliary in the treatment of dysentery.

SÉE ON MILK DIET IN HEART-DISEASE.—M. Sée, in his book on the treatment and diagnosis of heart-disease, regards milk as a most powerful diuretic; he does not approve of exclusive milk diet, which, in his opinion, reduces the patient to a state of extreme inanition, but prescribes a mixed milk diet of about two litres and a half of milk *per diem*, added to the patient's usual food. This does not in the least interfere with the diuretic effects of milk. These effects must not be attributed merely to the water contained in the milk, as

has been supposed by some authors, because the same quantity of pure water would in no wise produce the same results. It is evident, therefore, that only the sugar and salts possess the diuretic properties, their action being similar to that produced by salts of potash and soda by their osmotic power. These diuretic properties seem to be much more powerful when the milk has not been boiled; it should, therefore, be taken unboiled and fresh from the cow if possible, or, at least, lukewarm, as cold milk does not act in the same way. It seems as if boiling the milk destroyed these properties; nevertheless, it must never be forgotten that some patients can only digest milk when boiled, so that the rule is not without exception.

Another curious point in the action of milk is, that it is equally powerful in cases where the cardiac affection is not combined with dropsy. M. Sée has often observed that patients who either no longer suffered from dropsy, or never had suffered from it, were extremely benefited by a mixed milk diet; the action of the heart became much calmer and more regular, and the palpitations disappeared altogether. M. Sée entirely disapproves of whey and grape cures for patients with heart-disease.

SÉE ON THE TREATMENT OF EXOPHTHALMIC GOÛTRE.—M. Sée says, in his book on the diagnosis and treatment of cardiac diseases, that the only treatment of exophthalmic goitre which he has found successful, is a combination of hydrotherapy with tinct. veratri viridi. He prescribes the latter in doses of from 10, 12, to 20 drops *per diem*, to be taken in four or five doses, and continues this treatment for several weeks, and even months. In this way he has succeeded in curing a young woman who had presented all the characteristic symptoms for fifteen years, and a young girl who, at the age of seventeen, began to suffer from palpitations and hypertrophy of the thyroid gland—a case of exophthalmos, with palpitation.

SÉE ON THE TREATMENT OF CARDIAC DYSPŒA.—M. Sée, in his book on the diagnosis and treatment of heart-disease, advocates the use of iodide of potassium in cases of continuous cardiac dyspœa, either alone or combined with opium, digitalis, or chloral, beginning with doses of 1½ gramme, and rising gradually to 2 or 3 grammes, to be continued for some time. Opium is added in doses of from 10 to 15 centigrammes, in order to counteract the effects of iodine; and chloral is useful in cases where digitalis is not tolerated. The prescription would then be as follows: B. gum julep, 120 grammes; iodide of potassium, 2 grammes; and hydrate of chloral, 4 grammes. To be taken every two hours during the day.

RODET ON MENINGITIS CURED BY IODIDE OF POTASSIUM.—M. Rodet relates, in the *Lyons Médicale*, a remarkable case of meningitis, which has suggested to him interesting reflections on the subject of the employment of iodide of potassium in this disease. A girl of 18 had reached the eighteenth day of a well-marked acute meningitis, which had produced paralysis of the right arm, when M. Rodet prescribed for her 3 grammes of iodide of potassium every twenty hours. The following night the patient showed slight improvement, and began to recover a little consciousness. Next day the dose was raised to 4 grammes, and, the following day, to 5 grammes, and continued at that for the subsequent days. 'She

improved under this influence, made rapid progress, and, five days afterwards, the patient might be considered as convalescent. The paralysis of the right arm had completely disappeared. M. Rodet observes that this treatment of meningitis has been recommended by several practitioners, and nevertheless may be said to remain almost completely unknown. It was particularly indicated by Dr. Bourrousse of Laforre, who praised it very highly, even declaring it to be an infallible remedy. It is probable that the reason the remedy has not been more generally used, is because physicians who had tried the treatment have given it with too much timidity and in too weak a dose to obtain a curative effect, and thus have been led to think it ineffective. M. Fonssagrives, in his *Treatise on Therapeutics*, mentions the opinions of various other writers on this subject, and concludes that iodide of potassium constitutes an important improvement in the treatment of an affection, the incurability of which is notorious, and that this means cannot be too highly recommended. He adds, however, that this medicine ought to be given from the outset of the disease, before it has produced serious disturbances in the membranes and the brain. M. Rodet thinks, nevertheless, that iodide may render service even at a more advanced period of the disease.

SELL ON TINCTURE OF CAULOPHYLLUM AND OTHER REMEDIES FOR DILATING THE CERVIX.—At a meeting of the Obstetric Section of the New York Academy of Medicine (*New York Medical Record*, January 25, 1879), Dr. Sell related a case, as an example of several, in which he used the concentrated tincture of caulophyllum, or squaw weed, with the happiest results, as a remedy to ward off tedious labour. The remedy was especially applicable in those cases in which the woman had habitually suffered severely during the first stage of labour. As a preparatory remedy in such cases, it should be administered in twenty-drop doses, three a day for three or four weeks previous to confinement. Dr. Merrill remarked that he had witnessed similar results from the use of castor-oil during labour. He referred to cases in which he had found the os rigid, had ordered a dose of the oil, and, by the time the bowels were freely evacuated, the rigidity had disappeared, and speedy delivery was effected. He further remarked that he had used castor-oil with good effect in cases in which the uterine contractions were weak, and the os was considerably dilated. Given in half-teaspoonful doses every ten or fifteen minutes, the oil had produced marked uterine contraction as rapidly as he had ever obtained by the use of ergot. Dr. Sell regarded the oil as a dangerous medicine to be given during the latter months of pregnancy, for if it had the power to excite uterine contraction, it might produce premature delivery. He also referred to gelsemium as a valuable remedy in cases of rigid os during labour. Dr. Merrill remarked that he had never ordered castor-oil except when he was convinced that it was time for labour, or the process had already commenced. He always charged his patients not to take castor-oil during the last months of pregnancy, if remedies were needed to keep the bowels open, because of the liability to excite uterine contraction. Dr. F. V. White remarked that, when he was house-surgeon in Bellevue Hospital, it was customary to administer castor-oil to the lying-in women on Sundays, and there were marked results following its administration. He also asked Dr.

Sell if he had not obtained as satisfactory results from the use of chloroform in cases of rigid os during labour as from the use of gelsemium? Dr. Sell replied that he preferred gelsemium to chloroform.

PETERSEN ON PUERPERAL FEVER TREATED BY BENZOATE OF SODA.—As this is the first case where benzoate of soda has been given in puerperal fever, the following observations by Dr. Petersen, published in the *Centbl. für d. Med. Wiss.*, March 8, 1879, will not be found void of interest.

The patient, a primipara, aged 25, had puerperal fever twelve days after delivery. There was considerable parametritis of the right portion and the fundus of the uterus, the parts were tender to pressure, and the abdomen much distended by gases. The patient had diarrhoea, the pulse was from 140 to 150, and the temperature 40 deg. After 15 grammes of salicylate of soda had been administered, the temperature sank to 38.8 deg., but the patient was in an alarming state of prostration; the dyspnoea and flatulence had increased. Wine and strong beer were repeatedly given in large doses, the pulse rose, and a half per cent. solution of quinine administered every two hours, together with 7.5 grammes of salicylate of soda, as the patient complained of singing in the ears. However, as her state did not improve, and the collapse again became threatening, the author resolved to try a solution of benzoate of soda, 10 grammes to 200 grammes of water. The patient rapidly improved, the temperature sank, she slept well, and soon recovered.

IMMERMANN ON THE PREVENTION OF RELAPSES IN TYPHOID FEVER.—The author is of opinion (*Centralbl.*, No. 1, 1879) that relapses in cases of typhoid fever are due to the presence of the typhoid poison in the system, except in instances where the patient has committed some error in diet. The latter occurrence can of course be prevented by watching the patient carefully, and the author has endeavoured to prevent the former by putting the convalescent through a systematic process of disinfection. This process consisted in giving the patients daily from 4 to 6 grammes of salicylate of soda for ten or twelve days, beginning from the first day the temperature assumes its normal state. Fifty-one patients were treated in this way, and only two suffered from relapses; one owing to something she had eaten in secret, and the other because, owing to a mistake, the drug had not been given to him immediately after the fever had left him. Fifteen out of sixty-seven patients who had not been treated with salicylate of soda had relapses. The author concludes from these observations, that salicylate of soda is not only a powerful preventive of relapses in cases of typhoid fever, but that it also would prove very useful in procuring immunity from the disease for the nurses and attendants.

Immermann has also observed that patients who had been treated exclusively with cold water showed a greater tendency to relapse than others who had undergone a combined water and quinine, or salicylate of soda treatment.

SHARKEY AND OTHERS ON THE USE OF SALICIN, SALICYLIC ACID, AND SALICYLATE OF SODA.—Dr. Sharkey (*St. Thomas's Hospital Reports*, vol. viii, new series) believes the last-named drug to be much more effectual than the other two. The dose given was 20 grains every two or three hours. Out of 150 cases of acute rheumatism treated by Dr. Jacob by salicylate

of soda, a markedly good effect was noticed in 103 cases; 42 could hardly be said to be benefited or the reverse; and, in 5, the effect was unfavourable. In no instance was delirium caused by the drug, although a sort of nervous irritability, restlessness, and rapid breathing, appeared to be occasionally due to it. Dr. Theodore Acland, in an excellent communication on the same subject, states that the quantity of urine is diminished directly or indirectly by the drug; that the percentage amount of urea excreted remains unaffected, but that, of course, the total quantity of urea excreted is considerably lessened. This fact, in his opinion, explains the failure of the salicylic treatment in enteric fever.

ORD ON THE USE OF THE GRADUATED BATH IN THE REDUCTION OF FEBRILE TEMPERATURES.—Out of 60 cases of enteric fever, Dr. Ord (*St. Thomas's Hospital Reports*, vol. viii, new series) tried the graduated bath (by which is meant a bath of from 90 to 100 deg. Fahr. cooled down in 20 or 25 minutes to about 70 deg. Fahr.) in 13, and, in all, with satisfactory results. "Of the cases in which the baths were used, several were clearly arrested in a fatal course. That the bath was not always successful was to be expected. The lesions of enteric fever are so often sufficient of themselves to kill, that a remedy which deals chiefly with hyperpyrexia cannot be expected to be a panacea. So far, however, as the danger in any case is purely one of hyperpyrexia, the efficiency of the bath is manifest. The cases in which it succeeded were cases of such a kind; the cases in which it failed were fatal by reason of peritonitis, perforation, or great extent of intestinal glandular lesion with exhausting diarrhoea. Even in these cases, the bath has appeared to protract the struggle, affording delay, during which more favourable local states might be established. And it may be noted that another external application—the ice bag—has alone, or with the bath, been able to control violent peritoneal inflammation associated with symptoms almost certainly demonstrative of perforation." The rule adopted is, that it should be used whenever the temperature, having reached 105 deg., is still rising, particularly if the rise be before or after the usual evening hour. Dr. Ord believes that the graduated bath has a double remedial action, viz., the diminution of bodily heat in a direct fashion by the simple ablation of excess, and also by reflex nervous influence; as a soothing agent it controls internal and local inflammations.

SPENCER ON SALICIN AND SALICYLIC ACID.—(*Transactions of the Bristol Medico-Chirurgical Society*, vol. i. Bristol, Kerslake and Co. 1878.) Dr. Spencer has contributed an exhaustive memoir on the chemical and therapeutical differences between salicin and salicylic acid. He combats the theory of Senator of Berlin, who tried to show that salicin, as soon as it enters the stomach, breaks up and yields glucose and saligenin, and that the latter is oxidised into salicylic acid. He adduces several cases as clinical evidence justifying his scepticism in regard to Senator's oxidation process.

KACZOROWSKI ON THE EFFECT OF COLD AIR IN MEASLES.—The author says (*Przelad Lek.*, Nos. 6 and 7, 1878) that cold air is one of the most efficient remedies in eruptive affections. He happened to discover this interesting fact by mere chance in the case of a small-pox patient who escaped into the courtyard on a cold winter's day. The next day the pustules, which were already filled

with pus, were dried up. Another case is that of a man who, while suffering from an abscess on his thigh, suddenly took measles, accompanied by a troublesome feeling of itching and burning of the skin. He was carried into a room without a fire, and, within a few hours, the itching subsided, the eruption disappeared, and the patient recovered from the measles on the third day.

The author has also found that in gangrenous affections of the lungs, or in inveterate foetid catarrhs of the trachea, cold air is a very efficient remedy. He does not attempt to explain the fact, but says that he prefers cold air to cold baths in acute feverish affections.

WEISS ON THE USE OF PILOCARPINUM MURIATICUM IN CHILDREN'S DISEASES.—The author (*Pest. Med. Chir. Presse*, 1879, 2) has had the opportunity of observing the effects of pilocarpine in fourteen cases where the patients were suffering from nephritis, complicated with general dropsy, following scarlatina. In four cases there existed extensive bronchitis, in two diphtheria, and in one pneumonia of the left side of the lung. In each of these cases the results produced by pilocarpine were most favourable, and the patients could all be dismissed as cured. One of the most important properties of pilocarpine is that it prevents the dropsy from increasing, keeping it stationary without implicating the kidneys, till the latter have recovered their power of secreting urine more abundantly. Two different kinds of solutions were used for the hypodermic injections; a 1 per cent. solution for children under four years, and a 2 per cent. one for children above four years. In such young patients, where collapse seemed to threaten from prolonged illness and great weakness, 4 or 5 drops of ether were added to the solution of pilocarpine in the syringe. The author observed, that whenever he used this mixture, the young patients did not present the phenomena which generally followed the injection of a solution of pure pilocarpine, viz., vomiting, nausea, hiccough, pallor, and a feeble pulse. The injections were made once daily into the upper arm, beginning with half a syringe, and rising to a whole one. The effects of pilocarpine generally appeared after a few minutes, beginning with a slight flush on the face, which, however, gradually increased, and only disappeared when the perspiration had ceased. The latter set in after three to five minutes, beginning on the forehead and face, and gradually spreading over the rest of the body. The duration of the perspiration was different; in one case it lasted for 1½ hours, in another 3½ hours, in a third case, of very considerable universal dropsy, where the amount of urine passed in the 24 hours was only 150 c.c.m., the secretion lasted for 15 hours, after which, the cedematous infiltration decreased considerably. The quantity of fluid secreted in the saliva and the perspiration were in direct proportion to the amount of pilocarpine which had been injected, and to the strength of the solution. Thus, a 2 per cent. solution always called forth a more considerable secretion of perspiration and saliva than a 1 per cent. solution. Two out of the fourteen patients complained of pains in the abdomen after the injection, and four of headache. In eight cases, the pupil was seen to contract; the contraction began at the same time at which perspiration set in, and lasted from 30 to 45 minutes. The temperature was taken in every case both before and after the injection, and in several of them was observed to fall rapidly after the injection.

tion; this decrease, however, never lasted longer than from half an hour to three hours, after which time the normal temperature was again reached. Only in one case, where the perspiration had lasted for 16 hours, the temperature, which had been 40.4 deg. Cent. before the injection, fell to 38.6 35 seconds after it, and did not rise again. The pulsations of the radial artery increased in a minute from 12 to 30; the pulse was full and jerking; this acceleration lasted from 15 to 30 minutes, after which time the pulse regained its previous character. In four cases, the patients vomited. The vomited matter consisted mostly of mucus. After the injection, almost all the children coughed very much; in four cases where there was extensive bronchitis, and in a fifth, which had been showing symptoms of oedema of the lungs and uræmia, the lungs were entirely cleared from the secretion which had accumulated in them by the frequent coughing within 48 hours. In nine cases, there was a strong desire to micturate immediately after the injection; and, in three, to evacuate the bowels. The motions were thin and very offensive, and were passed in great quantity. In a case of constipation which had lasted four days, the bowels were moved copiously immediately after the injection.

There was no notable increase in the quantity of urine passed after pilocarpine had been injected; it was of a much lighter colour than before. The following are the author's conclusions: 1. Pilocarpine has proved to be a very successful remedy for children who suffer from nephritis and scarlatina; 2. In giving it to children, care should be taken to begin at first with small doses, which may later on be gradually increased; 3. If the little patients are very weak and are likely to collapse after the injection, a few drops of ether should be added to the pilocarpine solution; 4. The drug produces a very copious and lasting secretion of sweat, such as no other drug ever has been known to call forth—it acts quickly; 5. In cases of bronchitis, complicated by dropsy, which often produces dyspnoea in children, the affection of the bronchi vanishes very soon after the remedy has been administered.

PATHOLOGY.

RECENT PAPERS.

MAYER, S.—Ueber Degenerations und Regenerationsvorgänge in normalen Peripherischen Nerven. (*Sitzungsab. d. k. Akad. d. Wissensch.*, Wien, lxxvii, p. 80, 1878.)

SANSOM, A. E.—On a Case of Noma, in which moving bodies were observed in the Blood during Life. (*Med.-Chir. Tr.*, London, lxi, p. 1, 1878.)

STRICKER, S.—Ueber die Theorie der Eiterung. (*Med.-Chir. Centralbl.*, Wien, xiv, pp. 40, 51, 1879.)

LONG FOX ON THE PATHOLOGY OF TETANUS.—Dr. LONG FOX (*Bristol Medico-Chirurgical Transactions*, vol. i), after mentioning the *post mortem* appearances noticed by Lockhart Clarke, Dickinson, and Clifford Allbutt, states that he himself has found (1) areas of cord softened, so as to be almost diffuent; (2) hæmorrhage outside the spinal dura mater, and gummy-looking fluid beneath the arachnoid; (3) distension of the vessels and thickening of the mem-

branes; (4) fissures in the posterior white columns; (5) softening of cord and many amyloid bodies in the grey matter; (6) creamy posterior columns, the softening seeming to be composed of colloid bodies. The colloid masses of which he speaks, and which do not take the carmine dye, are probably, as Dr. Batty Tuke believes, degenerated nuclei of the neuroglia, and not the large homogeneous albuminoid exudations described by Dr. Bookey and Professor Auerbrecht. Dr. Long Fox believes that none of the lesions yet found can be considered as in any way causes of tetanus. It is more likely, he thinks, that the blood itself is in fault. In strychnine poisoning—a condition so analogous to tetanus—Dr. Harley has shown that the blood is incapable of absorbing oxygen in the usual proportion. The immediately fatal phenomena of many cases of tetanus seem to point to some such explanation. This abnormal blood imperfectly nourishes the cord, and either thus, or by its distinctly toxic effects, diminishes the resistive power of that organ—in other words, a cord so conditioned is abnormally impressible. This impressibility renders arterial spasm morbidly facile, whether the exciting cause is the circulation in the cord of more of the morbid blood, or reflected irritation from a diseased nerve at the periphery, or reflex irritation from any other cause and from any other point in the body; and if this arterial contraction goes on for any protracted period, or is frequently repeated, we may find various lesions due to imperfect blood supply, in addition to those due to diminished nutrition from the original nature of the blood, whilst, as a sequence of the spasmodic arterial contraction, we may get dilatation, hyperæmia, and, perhaps, exudation; and lastly, the pressure of the exudation, or some peculiarity in its nature, may lead to further disintegration of the nerve centre.

GROS ON THE HISTORY OF NEURITIS.—(*Lyon Méd.*, March 16, 1879.)—The history of neuritis is not old, and in spite of numerous researches, its etiology and nature are still very obscure. Inflammation of the nerve, or more correctly the nerve string, may be brought on by three different processes. 1. It may be an acute parenchymatous neuritis, where the nerve tube alone is affected; 2. It may be an interstitial neuritis, characterised by a protracted inflammation of their intra- or periferic connective sheaths; 3. It may be a mixed consecutive neuritis, or inflammation of the nerve-tubes, originating in their being continually compressed by the increasing growth of their sheaths.

All these lesions are quite clear, and each has its peculiar characteristics, which have been clearly demonstrated by microscopic examinations. But the symptoms which correspond to each of them are far from being clearly defined, and M. Gros has passed rapidly over this portion of his work, contenting himself with merely mentioning muscular atrophy and cutaneous eruptions as being the effects of affections of the trophic nerves.

These inflammations of the nerve-cords have the peculiar tendency of advancing occasionally towards the nerve-centres, and producing secondary alterations in them, and a very important point to be noted is that this secondary spinal affection may manifest itself even when the primary affection has apparently come to a stop. Thus, at a given moment, a peripheric lesion can not only give rise to medullary symptoms, but also to lesions of the spinal cord.

In short, a neuritis which is disseminated over the peripheric nervous system, can, partly through certain symptoms which are peculiar to it, and partly by extending to the cord, give rise to different syndromi, which clinicists have described under different names.

The author has collected ten cases in corroboration of his views, and among them Landry's case of *acute ascending paralysis*; Duménil's case of *ascending neuritis*; Jaccoud's case of *progressive nervous atrophy*; and Eichorst's case of *progressive acute neuritis*. He acknowledges himself that these cases are incomplete, and present only few points of similarity, but he thinks that they may all be connected by one common symptom, viz., muscular atrophy, which is accompanied by more or less distinct sensory troubles. According to him, there are three forms of disseminate neuritis. 1. An acute form, which lasts generally three weeks, during which time muscular atrophy is not sufficiently developed to be demonstrated clinically, and which ends fatally; this is "acute ascending paralysis"; 2. A subacute form, which lasts from six to twelve months; in some cases the patients recover, and the power of movement is restored in certain parts of the body, while in other cases they die; 3. A chronic form, which is generally met with, and which may last up to five years.

All this classification must, however, be considered as mere hypothesis, as it has not yet been sufficiently proved that all the three forms we have mentioned really belong to the same disease. The connecting link between them is muscular atrophy, but when this is wanting, as in the first form, there only remains a very feeble support for the author's theory, viz., an anatomical lesion, the neuritis. It would perhaps hardly be admissible in pathology to found a whole classification on a simple anatomical lesion, while the symptoms produced by it differ widely from each other in many points.

MICROSCOPIC EXAMINATION OF THE SPINAL CORD OF A LEPER.—M. Tschiriew reports to the Pathological Society of Paris the result of the microscopic examination of a leper dying in a French hospital. He has observed atrophy of the cells of the grey substance of the posterior horns, and an accumulation in the tissue of the epindyma of small round cells (lymphatic or embryonic), and the integrity of the white substance and the nerve roots. The skin, examined at the level of the second and third phalanges of one of the fingers, appeared to be infiltrated with round cells throughout the thickness of the derma; its structure was at some points unrecognisable. There existed also endarteritis; the collateral nerves of the finger were transformed into bundles of connective tissues containing also a few degenerate nerve fibres.

LANNELONGUE ON THE PATHOLOGY OF THE STRICTURES OF THE RECTUM.—Dr. Lannelongue said, at a meeting of the Soc. de Chir., of Dec. 11, 1878, that he had observed in two instances that prolapsus recti in children was followed by a stricture of this intestine; he therefore thought that in many cases the existence of the stricture might be explained by a similar accident. The first case was that of a child who had had prolapsus recti, followed by inflammatory symptoms. The prolapsus was reduced, but three months later the child presented a stricture of the rectum, which extended over about two-thirds of the circumference of the

organ. In the second case, the prolapsus had existed for some time, when it was suddenly aggravated by violent straining at defecation. The tumour was red and soft, and showed a tendency to ulcerate. The case was treated in the usual way, and the result was not unsatisfactory, but after a certain time granulations could be felt on the invaginated walls, and gradually an annular stricture was formed about two inches above the anus.

A CASE OF CALCIFICATION OF THE LUNGS.—We take the following interesting account of a rare case from the *Mouvement Medical*, March 8, 1879, to which journal it was transferred from the *Giornale Internazionale*.

A woman, aged 27 years, who was suffering from dilatation of the stomach, following a stricture of the pylorus, died at the Hospital Rodolfi. At the necropsy, the stricture, which had been caused by the cicatrization of a round ulcer, was found, together with the symptoms of advanced marasmus, and a peculiar state of the surface of the lungs. Some portions of the latter were not soft, did not give way when pressed, and presented a blackish appearance, combined with a greater consistency than is usually the case. The parenchyma was rigid, tough, and when pressed with the finger retained the impression; a frothy liquid oozed out of it when transverse cuts were made; this naturally led to the supposition that the parenchyma of the organs was consolidated. It was, however, discovered under the microscope that the connective tissue between the alveoli and infundibula was not transparent, but contained some needle-shaped calcareous deposits.

The lungs were found to contain about 14 per cent. of inorganic matter, which consisted principally of phosphates of chalk and magnesia. All the other organs, the bones included, were also submitted to a most careful examination; but the kidneys alone presented manifest symptoms of calcification, the calcareous matter being deposited in the urinary tubules.

The etiology of the disease is very obscure, as nothing was known about the former life of the patient. It was therefore supposed that the cause of this extraordinary illness was a chronic inflammatory process in the lungs, and that it was the effect of what Virchow calls calcareous metastasis. At a discussion on the subject, which took place between the professors of the Royal Society of Medicine, Professor Bamberger said that he thought the limestone must have penetrated into the lungs from the outside; but in what way he could not exactly say. The circumstance that the lungs and kidneys alone contained calcareous matter, would lead to the inference that the presence of the latter in the body can only be ascribed to inhalation through the lungs.

TAPPEINER ON A NEW METHOD OF PRODUCING TUBERCULOSIS.—The author of this interesting article, which was originally published in *Virchow's Archiv*, vol. 74, page 393, is a physician living at Meran, in the Tyrol, and was led to undertake his researches on this subject, from having frequently observed the fact that healthy girls, who belonged to healthy families, and had been nursing consumptive patients, became consumptive and died quickly. He was more and more impressed with the idea that phthisis was contagious, and suspected the contagion was spread by the attendants or

nurses breathing the air impregnated by the patient's expectorations.

His experiments were conducted in the following way: he made animals (dogs, who very seldom suffer from tuberculosis) breathe in a space the air of which had been impregnated, by means of an atomizer, with phthisical sputa that had previously been diluted in water. In eleven cases, with one exception, miliary tuberculosis of both lungs resulted, most of the animals also had tubercles in the kidneys, and some in the liver and spleen. The nodules first appeared in the third week after the first inhalation; a very small quantity of sputa is sufficient to produce the eruption. As the disease was not in every case confined to the lungs only, the author thinks that the action of the inhaled particles is not a mechanical, but a specific one. Identical experiments were undertaken with calves' brains, which had been prepared in a similar way to the sputa, for the purpose of verifying the former experiments, and gave a negative result.

QEHN ON CONTRIBUTIONS TO THE PATHOLOGICAL ANATOMY OF ACUTE DELIRIUM (*Arch. Psych.*, viii, page 594).—The author has had the opportunity of observing and studying four cases: the first patient was ill for twenty-two days, and eight days before he died gangrene of the right leg set in, beginning at the foot, and spreading rapidly over the whole limb. The right forearm, from the hand to the elbow upwards, was also similarly affected. At the necropsy, an unexpected complication was met with in the shape of a hard tumour, of the size of a nut, on the left side of the pons, which seemed to spring from the acoustic nerve; the ganglia of the sympathetic cardiac plexus were partly degenerated, and the cortex of both kidneys showed fatty degeneration.

The second case lasted for sixteen days; a few days before death phlegmonous inflammation of the right foot set in, and on the night preceding the end, the patient's back, abdomen, and legs were covered with numerous pustules. At the necropsy the latter were found to communicate with abscesses under the skin. The liver was partly in a state of fatty degeneration, and the capsules of the kidney very adherent, the cortex being of a yellowish tinge.

In the third case, the patient was delirious for twenty-six days; in the course of the last six days a gangrenous phlegmon of the right leg set in. The liver was swollen and in a partial condition of fatty degeneration, the cortical layer of the kidneys of a yellowish hue and adhering to the capsules. The author considers this case, as well as the fourth, as being closely allied to acute paralysis.

In the latter, acute delirium set in towards the end of an illness which had lasted four months; it broke out while the patient was under mercurial treatment for syphilis, and lasted for fourteen days. Here also a gangrenous inflammation was observed, similar to those which have been described above, which broke out in the vicinity of an open syphilitic ulcer on the right thigh. At the *post mortem* examination, the posterior columns were found in a state of grey degeneration.

In comparing the results of the microscopical examination in all four cases, they were found to be alike in several points. The pia mater was always thick, dark, and of the consistence and appearance of jelly, the vessels, especially in the grey matter, were all more or less in a state of fatty degeneration, and traces of small hæmorrhages could be detected

in their vicinity. The nervous system seemed to have been affected secondarily, the affection manifesting itself in a fatty degeneration of the cells of the ganglia; in some cases the former had entirely vanished, and in their place only a large mass of fatty globules could be seen, while in other cells the change had hitherto confined itself to the nucleus, increasing it in size. The author is of opinion that such cases ought to be considered as acute meningo-encephalitis.

VALLIN ON A CASE OF ABDOMINAL ANEURISM IN A SYPHILITIC PATIENT.—M. Vallin presented, at a recent meeting of the Société Méd. des Hôpitaux (February 28), several preparations from a patient who died from the rupture of an aneurism in the abdomen. The patient, aged 45, had spent the greater part of his life in Cochinchina, and had come back in a state of great dyspepsia, anæmia, and cachexia. He also suffered from violent pains in the lumbar region, the pains being felt particularly when he walked fast or attempted to pass from the recumbent position to the upright one. An anæmic murmur could be heard over his heart, and he complained of palpitations, and entered the hospital in a state of highly advanced cachexia. There was a history of syphilis, which dated about fifteen years back, had disappeared under very energetic anti-syphilitic treatment, but had recurred five or six years later; in fact, a gumma could be detected on the lower part of the leg, as well as a large exostosis, of the size of half a pigeon's egg, in the interosseous space of the same limb. M. Vallin, who ascribed the patient's extreme cachexia and anæmia to syphilitic intoxication, treated him with iodide of potassium and mercurial frictions, which proved successful, as far as the syphilitic growths were concerned; but the pains still continuing, and increasing in violence, he could not help suspecting that there was something else the matter with him besides syphilis. After a close examination he discovered pulsations in the left hypochondriac region and heard a blowing noise; this could only be caused by an aneurismal dilatation; the pulsations of the crural artery on this side were not isochronous with those on the right. The anti-syphilitic treatment was nevertheless continued, and the patient left the hospital, and died suddenly during the act of sitting up in bed. At the necropsy the peritoneal cavity was found to be filled with a great quantity of blood. There were no less than four diverticuli on the aorta, three of which might safely be termed aneurisms. The last was situated between the duodenum and the head of the pancreas, and was the one that had burst.

The question is, whether in this case there existed any relation between syphilis and the aneurism. It is well known that the former affection may cause sclerosis of the arteries through proliferation of the cells; this naturally would render some portions of the vessels less resistant to the pressure of the blood, and thereby greatly favour the formation of aneurismal sacs. Aneurisms have also been noticed before in syphilitic patients, under circumstances which render it almost certain that a relation exists between the two affections.

LARYNGOLOGY.

RECENT PAPERS.

1. MOIR.—On Croup: Its Nature and Treatment. (*Edinburgh Med. Journal*, December 1878, and January 1879.)
2. NAVRATIL.—Description of a new Laryngeal Dilator. (*Annales des Mal., du l'Oreille et du Larynx*, Vol. iv, No. 6, 1878.)
3. OERTEL.—The Outbreak of Diphtheria in the Grand Ducal Family of Hesse-Darmstadt. (*Brit. Med. Journal*, No. 941, 1879.)
4. PALMER.—A Case of Diphtheria; Tracheotomy; Recovery. (*Birmingham Med. Review*, January 1879.)
5. PFEIL-SCHNEIDER.—Rose's Method of Performing Tracheotomy on the Inverted Head. (*Deutsche Med. Wochenschrift*, No. 49, 1878.)
6. POWER.—The Nature of Certain Observed Relations between Diphtheria and Milk. (*Brit. Med. Journal*, No. 941, 1879.)
7. POWNALL.—Salicylic Acid in Scarlet Fever and Diphtheria. (*Brit. Med. Journal*, No. 938, 1878.)
8. QUINART.—Massage of the Tonsils. (*Archives Méd. Belges*, 1878; quoted from the *Journal de Méd. et de Chir.*, No. 12, 1878.)
9. REID.—Membranous Laryngitis from Eau de Cologne. (*Brit. Med. Journal*, No. 939, 1878.)
10. RIEGEL and TUCZAK.—Contribution towards the Symptomatology of Stenosis of the large Air-Passages. (*Berl. Klin. Woch.*, Nos. 50 and 51, 1878.)
11. ROBINSON.—Epithelial Cancer of the Larynx: Tracheotomy. (*New York Med. Journal*, Nov. 1878.)
12. ROBINSON.—Mucous Patch in the Larynx, with General Tertiary Symptoms. (*New York Med. Record*, Vol. xiv, No. 26, 1878.)
13. V. ROKITANSKY.—Chloral Hydrate in Diphtheria. (*Med. Chir. Rundschau*, Heft 11, 1878.)
14. RUBIO.—Total Extirpation of the Larynx. (*Med. Times and Gazette*, No. 1437, 1878.)
15. SCHAEFFER.—Operation on a Laryngeal Polypus by Voltolini's New Method. (*Deutsche Med. Wochenschrift*, No. 52, 1878.)
16. SCHECH.—Laryngoscopic Communications. (*Deutsches Archiv. für Klinische Medicin.*, Vol. xxiii, Heft 1 and 2.)
17. SCHELLE.—An Illuminating Apparatus for the Examination of the Nose, Naso-pharyngeal Cavity, Larynx, the Auditory Organs, and for the Performance of Operations in those Regions. (*Allgem. Wiener Med. Zeitung*, Nos. 49 and 50, 1878.)
- 18.—SCHREIBER.—On Paralysis of the Posterior Cricoid Muscles. (*Deutsche Med. Wochenschrift*, Nos. 50 and 51, 1878.)
19. SCHROETTER.—On "Chorditis Vocalis Inferior Hypertrophica". (*Monatsschrift für Ohrenheilkunde*, No. 12, 1878.)
20. SETTEGAST.—Diseases and Wounds of Larynx, Pharynx, and Trachea. From the Report of the "Bethanien" Hospital in Berlin for 1873-1876. (*Archiv für Klin. Chirurgie*, Vol. xxiii, No. 2, 1878.)
21. SOREL.—(Edematous Laryngitis with Tracheotomy. (*Le Médicin*, December 8, 1878.)
22. STOERK.—Luxation of the Left Arytenoid Cartilage. (*Wiener Med. Wochenschrift*, No. 50, 1878.)
23. THOMSON.—The Treatment of Croup by Tracheotomy. (*Medical Press and Circular*, No. 2069, 1878.)
24. URBANTSCHITSCH.—The Wandering of a Branch of Oatpanicle from the Mouth through the Pharynx, the Eustachian Tube, the Cavum Tympani, and the Tympanum itself, into the External Auditory Meatus. (*Berliner Klin. Wochenschrift*, No. 49, 1878.)
25. VANDERVEER.—Operation for Closure of Cleft of the Hard and Soft Palate. (*American Clinical Lectures*, Vol. iii, No. 9. New York, Putnam's Sons.)
26. VEIL.—On Tracheotomy in Extremis. (*Ann. des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 6, 1878.)

27. WAGNER.—Intra-laryngeal Growths. (*Ohio Med. and Surg. Journal*, August 1878.)

28. WAGNER.—On Diphtheria. (*Berl. Klin. Woch.*, No. 52, 1878.)

29. WOILLIEZ.—The Normal Thoracic Voice. (*L'Union Médicale*, No. 14, 1878.)

1. *Moir on Croup*.—The author gives a complete description of the disease, its history, etiology, symptoms, terminations and complications. The treatment will be dealt with in the following article. His description is of a decidedly polemical character. He is a strong believer in the duality of diphtheria and croup, and brings forward in the beginning of his article very many arguments of a clinical and pathological character, which seem to support his views; quoting at the same time numerous private and published opinions of many well-known English and foreign authorities on the subject. This collection of opinions greatly adds to the value of the article, the more so because it is very well arranged. Want of space and the nature of these reports do not allow us to enter into particulars about Mr. Moir's very laborious paper, but its perusal might be recommended to both friends and enemies of his views, as it gives a clear picture of the present standing of a question, about which just now the greatest interest is felt throughout the profession.

2. *A new Laryngeal Dilator*.—The main difference of Navratil's new dilator from Schrötter's tribranchial instrument consists in the fact that it has four branches. The inventor claims for it the advantages of easy introduction, great power, moderate amount of necessary pressure, possibility of gradual dilation of the glottis without withdrawal of the instrument, and easy access and passage of air to the lungs during its prolonged employment. A case, illustrating its quick and beneficial effects in an instance of syphilitic obliteration of the larynx, is added, and two beautiful woodcuts show its form and mode of action very clearly. The instrument is manufactured by Fischer, of Pesth.

3. *Diphtheria in Darmstadt*.—Oertel gives a detailed statement in *The British Medical Journal* of the etiology and treatment of the affection, to which the late Princess Alice fell a victim. The report is deservedly designated "one of the most able and complete clinical reports in modern medical literature," in a leader of the same journal; proving conclusively, as it does, the contagious character of the limited epidemic, and showing that the treatment embraced everything which the most recent researches could possibly suggest. Its perusal is heartily to be recommended to every member of the profession.

5. *Tracheotomy*.—Without knowing of Wolff's paper on this subject (see No. 106 of report in LONDON MEDICAL RECORD, January 1879), the author has come to very similar conclusions as to the advisability of placing the patients with head towards the window, then administering chloroform, and finally allowing the head to hang at right angles with the body over the end of the operation table. He recommends the method, which he has used in five successful cases, as being very comfortable, and presenting the advantages of having the field of operation well illuminated, the trachea drawn out very far from the thorax, and, above all, not allowing any blood to enter the lungs.

6. *Diphtheria and Milk*.—In a paper read at a recent meeting of the Pathological Society of London, Mr. Power brought forward some observations

relating to a certain connection between diphtheria and milk, which he has made at the end of the epidemic in North London last year. Taking it as certain that the milk had given rise to the outbreak of the epidemic, he frames the hypothesis, that in this case the milk was perhaps not the mere vehicle of the specific contagium, but that it might have been itself infected by a disease of the cow's udder, popularly known as "garget". The specific or infectious character of this disease not being proved in any way, the paper is to be regarded more as a stimulus to the further investigation of the question, than as a proved hypothesis. The Pathological Society adopting this view, expressed by the President, the late lamented Dr. Murchison, did not enter into any discussion about the paper, but appointed a committee to further investigate this important question.

7. *Salicylic Acid in Scarlet Fever and Diphtheria.*—Dr. Pownall strongly recommends salicylic acid for the throat symptoms of scarlet fever, and still more urgently for diphtheria, having employed the drug with marvellous success for some time past. He gives the acid every four hours, and tinct. ferri perchlor. (*P. B.*) alternately with it. The form he uses is the following: *Rx* Acid. salicyl. \mathfrak{z} i vel \mathfrak{z} ij; syrapi simpl. \mathfrak{z} iv; muc. lag. tragacanth, \mathfrak{z} i; tinct. aurant, \mathfrak{z} iv; aquæ q. s. ad \mathfrak{z} iv. Fiat mistura capiat. \mathfrak{z} iv secundis horis.

8. *Massage of the Tonsils.*—The author recommends in cases of chronic hypertrophy of the tonsils, gargles of alum combined with a massage of the tonsils to be executed at first by the physician, later on by the patient himself. The index finger is put into some alum powder, introduced into the patient's mouth, and the gland rubbed with it in all possible directions, at first softly, later on more vigorously. After this the patient washes his mouth with an emollient gargle. In two cases the author has obtained a cure within one month, by the application of this at once mechanical and astringent treatment.

9. *Membranous Laryngitis.*—A patient received during a faint some eau de Cologne into her nasal passages, pharynx, larynx, and trachea. On the second day two small ulcers appeared in the pharynx, and a small piece of membrane was coughed up. Within ninety-two hours a perfect cast of the larynx, trachea, and left bronchus, was brought up in a piece, with instant relief to all urgent symptoms. Patches of membrane remained on the nasal mucous membrane till the end of the seventh day. The temperature varied from 99.4 to 97.4°; the pulse from 130 to 88. No albumen appeared in the urine.

10. *Stenosis of the large Air-Passages.*—The authors have made a new series of experiments, in order to verify those made by Riegel alone, with respect to the influences of impeded entry of air into the lungs upon the blood-pressure, produced by stenosis of the large air-passages. The result, then obtained, viz.: *that the respiratory vacillations of the blood-pressure become greater in cases of stenosis of the large air-passages, and that their increase is proportional to the degree of obliteration of the air-tubes*, has been fully confirmed by these new experiments.

11. *Cancer of the Larynx.*—The patient was a man aged 31. The disease had lasted over two years, when tracheotomy was performed on account of the urgent dyspnoea. The lymphatic glands in the neighbourhood were not swollen. The disease had attacked the epiglottis and the ventricular space on

the left side. After the operation the patient had improved considerably in power of deglutition, the cough and general health. The histological nature of the growth was proved by microscopic examination of some portions removed previously with forceps.

12. *Mucous Patch in the Larynx.*—Dr. Beverley Robinson showed, at a recent meeting of the New York Pathological Society, a larynx presenting the signs of syphilitic infection, *i.e.*, great thickening of the vocal cords, which showed besides cicatrices of old ulcerations. "On the posterior surface of the epiglottis there was a small lenticular ulceration, which presented rather an opaline and eroded appearance and was surrounded by an elevated margin." He considers this an opalescent mucous patch, which he had never seen before despite the frequency with which these patches are described. He was convinced that these patches did not occur simultaneously with the syphilitic skin affections, but considered them as tertiary lesions. The case in question was an instance in point, the man suffering from well-marked tertiary symptoms upon other parts of his body. [See however No. 44 of January report.—*Rep.*]

13. *Chloral Hydrate in Diphtheria.*—Professor von Rokitsansky (Innsbruck) has seen excellent results from half-hourly local applications of hydrate of chloral in a 50 per cent. solution in three desperate cases of diphtheria. The pain was slight, and the effect very rapid. As soon as the formation of granulations was observed, weaker solutions of the remedy were gradually exhibited.

14. *Total Extirpation of the Larynx.*—This operation was performed on May 11, 1878, in Madrid, on a man aged 41, by a Spanish physician, Dr. Federigo Rubio. It was undertaken on account of extensive caries and destruction of the left half of the thyroid, and of thickening and hypertrophy of the cricoid and arytenoid cartilages. The morbid process began ten months previously with the bursting of an abscess of the neck into the larynx. The first acute symptoms having disappeared, a laryngeal fistula was established. The respiratory difficulties and the marasmus became so great as to demand the capital operation. It was performed successfully—but the patient died five days later.

15. *New Method of Endolaryngeal Operation.*—Dr. Schaeffer has removed in six sittings a soft neoplasm (probably a fibroma) by Professor Voltolini's new method (described in this journal in November 1878, page 478). He introduced an ordinary sponge, attached to the wire, into the larynx and drew it to and fro. Immediately after the first operation the growth, which originated in the left ventriculus Morgagni and which was of a pink colour, appeared dark bluish-red; the next day the colour was lighter, but became more and more grey. After the sixth application the polypus had disappeared completely. The author concludes that it must have been ejected *in toto* as he had not observed any diminution in size. The general reaction of the mucous membrane of the larynx was quite unimportant.

16. *Laryngoscopic Communications.*—Under this modest title, Dr. Schech communicates four most interesting cases of laryngeal disease, some of them being distinguished by the uncertainty of their symptoms, which admitted of a great many different explanations. The first is a case of carcinoma of the larynx, with perichondritis of the thyroid cartilage and pneumothorax, in consequence of a necrotising pneumonia, produced by carcinomatous

particles from the laryngeal tumour having penetrated into the tissue of the apex of the left lung. It appears, from the very interesting history of the case, that the doubt, whether perichondritis or carcinoma had to be dealt with, was wholly justified, the conditions being of a most complicated nature, and the laryngoscopic appearance giving no definite clue as to the nature of the disease. Finally, the diagnosis of carcinoma was made, especially with regard to the violent tooth- and ear-ache, the latter symptom being considered by Von Ziemssen as a valuable aid towards the differential diagnosis between carcinoma and other laryngeal affections. Schech concludes from his case—the correctness of this statement having been proved by the *post mortem* examination—that the ear-ache, produced by the pressure of the neoplasm upon the fibres of the superior laryngeal nerve, and irradiated from those upon the nervus auricularis vagi and other nerves in the neighbourhood, is actually to be regarded as a very early and most important symptom of laryngeal carcinoma, at a period in which no characteristic laryngoscopic appearances exist.

The second case (for which the author acknowledges he is indebted to Professor Von Ziemssen) is one of paralysis of the left vago-accessory, glossopharyngeal, and hypoglossus nerves, in consequence of sarcoma of the basis cranii. The patient having been severely injured on his head three years ago, has since been very sensitive to influences of temperature. Three years later, suddenly, in consequence of a cold, violent pains in the left half of head and neck came on and persisted. Two months later, motor disorder of the left half of his tongue, dysphagia, regurgitation of food through the nose, and hoarseness, supervened. The pains in head and neck became nearly insupportable, especially at night. Numbness in left hand, diminution of memory, noises in front of the left ear. The head was drawn to the left, backwards and downwards; attempts at changing this position were very painful. The left mastoid process, the region before the left cucullaris, and the neighbourhood of the left lower horn of the thyroid cartilage, were extremely painful to touch. Faculty of hearing in the left ear diminished, tympanum normal, no conduct of sound through the left processus mastoideus, left half of tongue thinner and smaller than the right, thickly covered by a yellowish-white matter. No faradic sensibility in this half; left half of velum pendulum palati lower than the right, uvula drawn towards the left. The laryngoscopic examination showed paralysis of the left recurrent nerve; the arytenoid cartilages did not cross each other. Sensibility of the left half of the larynx, as well as of the posterior wall of the pharynx and of the velum, were much diminished (later on they completely vanished). The patient lived for nine months after he was admitted under Professor Von Ziemssen's care, and died finally under symptoms of marasmus. Without mentioning here the other results of the *post mortem* examination, it might be stated that a large round-celled sarcoma was detected originating from the posterior surface of the pyramis ossis petrosi sinistri, extending thence in all directions, penetrating through the os occipitale, and involving the glossopharyngeal, pneumogastric, accessory and hypoglossus nerves on the left side. Most of the fibres of the laryngeal muscles on the left side, especially of the posterior crico-arytenoid muscles, were atrophied and degenerated. The other results of the necropsy, as well as many other interesting

symptoms, cannot be communicated here for want of space. The reporter sincerely regrets that the same cogent reason prevents him from communicating Schech's ingenious explanations and clever attempts at explanation of the single symptoms, based upon the anatomical relations of the affected parts to the affected muscles. They are, however, so important that an abbreviated report would do them more injustice than benefit; therefore, the reader interested in these questions is recommended to study the author's arguments at their source.

The third case is one of *complete paralysis of both recurrent nerves* after diphtheria, occurring about three weeks after recovery from that disease. The child, aged seven, died from acute oedema of the lungs about ten days after she had fallen ill again with hoarseness, aphonia and dysphagia, severe attacks of cough and of suffocation. Two days before her death a pneumonic infiltration of the left lung was detected. On the next day, the velum was found to be immovable and insensible, the epiglottis was very anæmic and retained the same recumbent position during phonation and respiration; the vocal cords, of which only the posterior parts could be seen, were immovable in the cadaveric position; only during violent attacks of coughing there was a minimal movement inwards on behalf of the right vocal cord. On the day of her death the patient *could not swallow at all*.

The *post mortem* examination gave, with respect to the larynx, the following results: mucous membrane very pale, equally that of the trachea, nowhere any swelling or loss of substance. The microscopic examination of the laryngeal muscles showed that some muscular fibres were healthy; others, equally numerous, were in a state of granular opacity and had lost their horizontal stripes. In both inferior laryngeal nerves, as well as in both pneumogastrics, numerous nerve-fibres were in a state of fatty degeneration.

Schech's fourth communication relates to the first case of complete paralysis of the recurrent nerve ever observed in children. The clinical observation proved convincingly that there is no dyspnoea in such cases whilst the patient is at rest, and that necessity of quicker respiration only sets in when the patient is talking, coughing, etc. The author believes that the death of the patient was occasioned by particles of food entering the lungs through the open glottis and producing there pneumonia, the cesophagus being paralysed at the same time.

The last case is one of papillar carcinoma of the pharynx, occasioning at first paralysis of the laryngeal abductors, which gradually passed over into complete paralysis of both recurrent nerves. No better practical illustration for the theoretical explanation of the mode of action of the different laryngeal nerves and muscles could be desired than this one. It proved incontrovertibly, that the stenosis of the glottis, which had gradually become developed in consequence of the neoplasm destroying from its anatomical position at first the *posterior crico-arytenoid* muscles and their nerve supply, disappeared when the *adductors* in their turn were considerably attacked and unable to act. The preponderance, which they had acquired at first, thus being taken away, the narrowing ceased in so far that the vocal cords returned to the cadaverous position and remained in the same immovable condition up to the patient's death.

[More space has been granted to these com-

munications than the nature of these reports would seem to permit. This is to be explained by the fact, that they are simply *models* of careful and scientific observation based upon a thorough knowledge of the entire internal anatomy, and that more instruction might be gathered from the few pages which they occupy, than from many voluminous books. Many most important ideas, suggestions, conclusions, could not even be mentioned here, and the reporter can only once more urgently recommend the perusal of the original, in order to do justice to the author.]

17. *Schelle's Illuminating Apparatus*.—Want of space does not allow us to communicate a very detailed description of Schelle's apparatus and of its application; whilst an abbreviated report could scarcely give a clear summary of the manifold theoretical and practical reasons which have led to its construction. It may be fairly said, however, that all the different changes which the author proposes are much more of a nature of changes in detail of his own and other hitherto known apparatus, than of an introduction of entirely new principles of artificial illumination. The author finally claims as advantages of this apparatus over all others known to him: 1. Quick, comfortable, natural fixture of the patient's position, and quick and certain fixture of the light; 2. Binocular vision; 3. Possibility of employing it for examinations and operations in the nose and in the ear; 4. Great intensity of light, whilst only the usual illuminating materials are made use of.

18. *Paralysis of the Posterior Cricoarytenoid Cartilage*.—Detailed history of the case communicated under Nos. 62 and 81 of the first report.

19. *Chorditis Vocalis Inferior Hypertrophica*.—Professor Schroetter discusses this morbid process, which has first been described under this name by Gerhardt. It consists in a swelling originating from the free border of the true vocal cord and bulging into the interior of the larynx, obliterating in some cases considerably its lumen. Cases of this sort have been described by Czermak, Gibb, Türk, Scheff, Burow, Krishaber, Catti, but the views of these and other authors on the nature of the affection differ considerably from each other. Czermak considers the process as a "scrofulous infiltration of the mucous membrane", Türk as "chronic tumefaction", Scheff as "hypertrophy", Burow as "chronic inflammatory hypertrophy of the lower part of the true vocal cord", Von Ziemssen calls it "a true induration of the mucous and submucous tissues, originating from hyperplasia of the connective tissue". Catti agrees with Gerhardt's views, Voltolini proposes the name of "inflammatory hypertrophy subvocalis", and Ganghofner considers the process as a part of the disease described by Stoerk and called by him, "chronic blennorrhœa of the mucous membranes of nose, larynx, and trachea". Schroetter does not share in any of these views. Although admitting that the morbid process consists in later stages in a tumefaction or induration of the submucous tissue, he considers that it does not deserve any special name, as the same process has been observed on other parts of the larynx, and, as it is not necessarily a primary one, but is sometimes occasioned, as seen by himself, by primary perichondrial disease. He thinks, however, that this question is at present not to be decided definitely, as no *post mortem* examination has yet been made in such a case. With regard to treatment, he advises application of caustics, of the galvano-cautery,

and especially systematic introduction of laryngeal bougies, before the last help, tracheotomy, is resorted to.

20. *Diseases and Wounds of Larynx*.—From Settegast's very careful report, which abounds in interesting cases, it will be seen that the extralaryngeal method of removing neoplasms from the larynx is exclusively practised in his hospital. The author admits, that in two of the six cases of papilloma in children, in which surgical interference took place, the endolaryngeal method could have been made use of, but says that Bruns (who, based upon his incontrovertible statistics, so categorically requires the trial of the latter before the former is proceeded with) underrates the difficulties which accompany the performance of endolaryngeal operations, for a surgeon who does not occupy himself specially with the endolaryngeal method. The latter is a difficult and lengthy study, which demands the greater part of the working power of an individual. [Is the public to be advised to undergo a more severe operation because the surgeon has no time "to occupy himself specially with the endolaryngeal method"; or which conclusion is to be drawn from this confession?—*Rep.*] Three out of the six little patients, who were operated upon for multiple papillomata by tracheotomy and subsequent laryngotomy, died (!); one from suffocation in consequence of the cannula being ejected from the trachea by the patient himself during an attack of violent cough; one from hæmorrhage of the tracheotomical wound; one from complication with diphtheria. One was completely cured (the patient was one year and two months under treatment!), one was relieved, one was still under treatment when the report was published. [These numbers speak for themselves.—*Rep.*] The author strongly recommends the subhyoidan pharyngotomy in cases in which the endolaryngeal method cannot be practised. He claims the following advantages for it. "Without touching the glottis, it lays the same open from above like cricotomy, or, opening of the thyro-hyoid membrane, the territory below the glottis; moreover, it offers the advantage that cricotomy, should this become necessary, might very comfortably be added. Thus, for instance, it might be employed for tumours of the ventricles, which are so often inaccessible to the endolaryngeal method. The conditions for restoration to health are favourable. The evacuation of the secretion is rendered satisfactory if a part of the wound remain open or be drained." The succeeding chapters on syphilitic affections of the larynx, malignant neoplasms, wounds of, and foreign bodies within the air-passages, and on tracheal fistulæ after tracheotomy, contain mainly communications of some very interesting cases. In one of them, a tracheal cannula was spontaneously expelled from the left bronchus, having been lodged in it four weeks.

21. *Luxation of the Left Arytenoid Cartilage*.—Stoerk brings forward two cases of a most interesting affection, viz., of luxation of an arytenoid cartilage. In both cases there was falsetto voice from early childhood. In one case, the etiology was most likely to be found in cicatricial contraction after diphtheria; in the other no cause at all could be detected. There was in both cases immense tumefaction of the left arytenoid cartilage, which attained in one case three, in the other four, times its natural size. In the first case, occurring in a gentleman aged 33, the immobile thickened left cartilage, which was turned in a transverse direction, filled nearly completely the upper aperture of

the larynx; its healthy fellow was rendered immobile, too, in consequence of its being pushed backwards by the tumefied neighbour; and thus the vocal cords were permanently in a state of passive tension corresponding to that of the highest falsetto. This gave a simple explanation for the symptom at once attracting attention, viz., for the patient's permanent falsetto voice. Each simple catarrhal inflammation of the narrowed air-passages proved nearly fatal to the patient, bringing on attacks of suffocation. Thus Stoerk resolved in 1868 to relieve this state of things by producing a loss of substance on the posterior and external part of the mucous membrane of the tumefied left arytenoid cartilage, in the hope that the cicatricial contraction would produce a better position. This result was obtained and the respiration became easier for a short time. Soon, however, the old state of things returned. The operation was again performed a few years later, with the same temporary success. In 1874, the patient went to Schroetter to try his method of gradual dilatation by catheterism of the larynx. Stoerk candidly admits, that this method was accompanied not only by subjective relief, but by an actual dilatation of the upper aperture of the larynx. This fact was ascertained by Stoerk himself, the patient presenting himself repeatedly at his house whilst he was under Schroetter's treatment. In 1876, the patient died suddenly, cause of death unknown.—The second case, also occurring in a strong and healthy man, was very much like the first with regard to the symptoms of phonation and respiration. Here, however, the entire larynx could be seen, the vocal cords remaining close to each other even during deepest inspiration, as in cases of paralysis of the posterior crico-arytenoid muscles. The epiglottis stood quite straight, the right arytenoid cartilage was pushed outwards and backwards by its tumefied left neighbour, the processus vocalis of which occupied the place where the centre of the right ought to have been. In this case, also, catheterism was tried for two years, but without the slightest result.

23. *On Tracheotomy in Croup.*—The author, after having communicated some cases which occurred in his practice, recommends urgently the early performance of tracheotomy in croup. His paper was very fully discussed in the Surgical Society of Ireland, and it appears that the majority of the speakers shared in Mr. Thomson's views.

24. *Wandering of a Foreign Body from the Pharynx into the Ear.*—The case is mainly interesting in otological respects, but deserves to be mentioned here, because it is the second case on record in which a foreign body has taken this extraordinary way from the mouth to the external auditory duct.

25. *Operation for Cleft Palate.*—Clear and well-arranged lecture, illustrated by some very instructive woodcuts. The author is an eloquent advocate of Sir W. Fergusson's method of operating for cleft palate, i. e., of bringing the bone itself together by splitting it away from the alveolar ridge.

26. *On Tracheotomy in Extremis.*—The author succeeded in restoring a child, aged 2, suffering from laryngeal diphtheria, to life, by the operation of tracheotomy, although it had been lifeless to all reports and instances when the trachea was opened. He strongly recommends that so valuable a procedure should never be omitted in similar cases, even if the child seem to have died before the physician's arrival.

27. *Intralaryngeal Growths.*—Eight cases of pa-

pilloma, two of fibroma, one enchondrosis, one cyst on the epiglottis, two of cancer. The papillomata and one fibroma were successfully removed by evulsion, the other fibroma was destroyed by cauterisation.

28. *Diphtheria.*—Wegner recommends very strong doses of quinine, and communicates a case in which after the failure of all medicaments, a very big dose of an alcoholic stimulant (arrak) saved the patient's life.

29. *The Normal Thoracic Voice.*—Woillez explains the presence of pectoral fremitus, if the thoracic voice be used, and the absence of the same, if the falsetto voice be used, from the fact that the air column, brought into vibrations by the vibrations of the vocal cords, does not transmit these vibrations to the thorax; but that this transmission takes place by direct communication of the vibrations of the vocal cords to the solid parts of the larynx, trachea, and thorax. Physiological observations seem to prove, the author says, the correctness of this theory by showing, that during the use of the thoracic voice the vocal cords vibrate in their entirety, whilst the free borders only vibrate, and the rest of the vocal cords remain immobile, if the falsetto be used.

FELIX SEMON, M.D.

ORTHOPÆDIC SURGERY.

RECENT PAPERS.

1. CHIENE, JOHN.—The Treatment of Knock-knee. (*Edinburgh Medical Journal*, April 1879.)

2. DUBRUEIL.—Paralytic Club-foot. (*Gazette Médicale de Paris*, March 1879.)

3. GUÉRIN, JULES.—Vertebral Rotation, its Mechanism, and its Influence in the Formation of the Anatomical Characters of Lateral Curvature of the Spine. (*Bulletin de l'Académie de Médecine*, March 1879.)

4. HARTIGAN, J. F.—Congenital Malformation of Knee-joint. (*National Medical Review*, Washington, Feb. 1879.)

5. HUTCHISON, J. C.—On the Treatment of Morbus Coxarius by a New Method of Extension. The Physiological Method, with Cases. (*American Journal of the Medical Sciences*, Philadelphia, January 1879.)

6. HUTCHISON, J. C.—Lectures on Club-foot. (*Med. Record*, New York, January 1879.)

7. MIKULICZ, J.—The Lateral Deformities of the Knee, and their Mode of Cure. (*Archiv für Klinische Chirurgie*, Berlin, 1879, Drei-und-zwanzigste Band, Drittes Heft.)

8. OGSTON, ALEXANDER.—Treatment of Club-foot. (*British Medical Journal*, February 8, 1879.)

9. POORE, CHAS. T.—Cases of Exsection of the Hip-joint. (*Medical Record*, New York, February 1, 1879.)

10. STILLMAN, CHAS. F.—Continuous Extension in Spinal Curvature. (*Medical Record*, New York, February 22, 1879.)

11. TAYLOR, C. FAYETTE.—The Eccentric Genuclast. (*Medical Record*, New York, March 15, 1879.)

12. WALKER, THOS. JAMES.—Treatment of Angular Curvature of the Spine by a Plaster-of-Paris Jacket, applied in the Recumbent Position. (*British Medical Journal*, March 1, 1879.)

13. WYETH, JOHN.—The Treatment of Spinal Curvature by Continuous Extension. (*Medical Record*, New York, 1879.)

2. *Dubruel on Paralytic Club-foot.*—The muscles most frequently affected in infantile paralysis are those of the leg and foot. Every variety of club-foot may follow this malady. Talipes equinus is most frequent, usually accompanied by a certain

degree of varus, sometimes valgus. The reason of the greater frequency of equinus is, that in most cases, the paralysis and the fatty degeneration are less pronounced in the gastrocnemius and soleus than in the muscles of the anterior and external regions of the leg. In the kind of club-foot under consideration, you can easily raise the anterior part of the foot with the hand, and bring it up to a right angle with the leg, and sometimes even beyond. This can never be done in the congenital form. In the paralytic as in the congenital, but in a more marked degree, there is a diminution in size of the whole leg. This is marked not only in the soft parts, but in the bones, in their length as well as thickness. The calibre of the blood-vessels, on the affected side, is less, and the paralysed muscles have undergone fatty degeneration wholly or in part. Instruments are of no use. Electricity, either by the interrupted or continuous current, cannot give the muscles sufficient power to enable the patient to make use of the foot in walking. The tendo achillis must be divided, as well in cases of equino-varus as in those of equinus. The action of the gastrocnemius and soleus alone produces the adduction combined with the extension. In these cases there is not that approximation of the tendo achillis to the posterior tibial artery met with in the congenital. On the contrary, they maintain their normal distance from each other, therefore the tendon may be divided from above downwards.

3. *Guérin on Vertebral Rotation.*—The following are the conclusions arrived at by M. Guérin in this paper: 1. Rotation is a constant accompaniment of lateral curvature of the spine. 2. In virtue of the influence of the osseous constitution of the vertebral column, of the passive resistance of the muscles, and of their temporary and permanent contraction, the spine is placed in the condition of a stick which one wishes to bend, on its edge, or to the side of its greatest resistance, and which to escape this impossibility, rotates so as to present its less resisting side to the effort of flexion. 3. Rotation does not take place round the axis passing through the column, but round an axis passing through the tips of the spinous processes. 4. It results from this disposition and mechanism, that the vertebral curvatures are always more pronounced in front than behind; that is to say, following the line of the bodies of the vertebrae, rather than that of the spinous processes. 5. Rotation is the principal factor of the anatomical characters of lateral curvature.

4. *Hartigan on Malformation of Knee-joint.*—In Dr. Hartigan's case, the left leg and foot, instead of flexing on the thigh by the contraction of the biceps and semi-tendinosus, and semi-membranosus, could not be moved backwards after the tibia and fibula were in the axis of the femur; but at the child's volition, or with the gentlest pressure, the leg and foot bent forwards against the quadriceps, the sole of the foot presenting upward, the toes pointing into the groin, in which position it was generally maintained. Anteriorly, when the limb was straight, there were two deep creases in the integument. In these sulci the distribution of the quadriceps tendon could not be traced, nor could any indication of a patella be found. The condyles of the femur were natural in their development, and no deviation from the normal form of the tibia and fibula could be observed.

5. *Hutchison on the Treatment of Morbus Coxarius.*—Dr. Hutchison recognises the following indi-

cations for the treatment of hip-joint disease. 1. To secure immobility of the joint. 2. To procure extension of the limb. 3. To take from it the superincumbent weight of the body. 4. To provide means to enable the patient to take exercise in the open air. No apparatus is necessary to secure the first; this is effected by reflex contraction of the peri-articular muscles, aided by intra-capsular effusion and the voluntary effort of the patient on account of the pain produced by motion. As inflammation subsides, the muscles become relaxed and motion returns, if not interfered with by retentive apparatus, and ankylosis is prevented, except in extensive destruction of joint structures, when ankylosis is to be desired. Extension relieves pain by subduing spasm of the muscles forcing head of bone into inflamed acetabulum; it also corrects malposition and prevents deformity from contraction of muscles or partial dislocation of the heads of the bone. An elevated shoe on the sound limb, and a pair of crutches, allow the patient to get about, and at the same time, by suspending diseased limb, produce extension. This treatment should be adopted at once, whatever the stage of disease, until cure is complete, except where acute inflammation of synovial membrane and other soft structures of joint is suddenly developed, attended with great constitutional disturbance and pain, increased by the slightest movement. Here it is inappropriate at first. Until acute symptoms have subsided, bed, with a long splint and the weight and pulley. It may be necessary to make extension at night by weight and pulley, to relieve nocturnal pain, while the elevated shoe and crutches are used during the day.

9. *Poore on Exsection of the Hip-joint.*—Dr. Poore draws the following conclusions from a study of the cases that have been under his care: 1. That the causes of death directly traceable to coxalgia are amyloid degeneration, tubercular meningitis, and exhaustion. 2. That there is an intimate connection between the tubercular diatheses and amyloid degeneration, so that those of this predisposition seem peculiarly liable to this complication, subsequent to suppuration in connection with diseased bone. 3. That exsection does not, as a rule, increase the amount of suppuration. 4. That death is not, as a rule, due to, or hastened by, exsection. 5. That the removal of carious or necrotic bone from the hip-joint is followed by an improvement in general condition of the patient, and that the chances of his recovery are improved thereby. 6. That in patients of a tubercular diathesis, the question of excision should earlier be taken into consideration than in those of a non-tubercular diathesis. 7. That repair in a joint after excision is no proof of the non-existence of amyloid degeneration.

11. *Taylor's Genuclast* is a complicated instrument for reducing flexions, overcoming contractions, and breaking up osseous and fibrous adhesions of the knee-joint, by means of a combined movement, under regulation and control, of both extension and counter-extension. Whatever force is required to overcome the muscles, or to break up, or rupture osseous or fibrous adhesions, is received on the apparatus, instead of impinging on the articulation.

13. *Wyeth on the Treatment of Spinal Curvature.*—Dr. Wyeth gives a description of a new apparatus for the treatment of Pott's disease, by which extension can be made, at the same time that fixation and rest are maintained. It consists of a plaster-of-

Paris jacket made in two segments. The upper one is begun about one inch above the seat of disease, and passes upwards. The lower, perfectly independent of the upper one, extends downwards, until it is caught upon the expansion of the ilium on both sides. Into each jacket, during the application, three zinc plates, with iron staples in their centres, are fastened, one upon each side of the trunk, and the third over the spine, at opposite points above and below the seat of lesion. Extension bars, which can be lengthened or shortened by means of a key, are fastened to the staples in the zinc plates. Dr. Wyeth has tried the apparatus in one case only, but with considerable success.

ERNEST CARR JACKSON.

ANATOMY.

RECENT PAPERS.

MAYS.—Ueber den Bau der Sehnen mit besonderer Berücksichtigung ihrer Saftbahnen. (*Arch. f. Path. Anat. Berlin*, No. 5, 1879.)

PUTNAM.—A contribution to our Knowledge of the Cutaneous Distribution of the Brachial and Cervical Plexuses. (*Boston Med. and Surg. Journal*, No. 100, 1879.)

RUDINGER.—Ueber die Muskel-anordnung im Pfortner des Magens und am Anus. (*Allg. Wien. Med. Zeitung*, No. 24, 1879.)

RUMPF.—Zur Histologie der Nervenfasern und des Axencylinders. (*Verhandl. der Naturh.-Med. Ver. zu Heidelb.*, No. 2, 1879.)

SCHENK.—Ueber die Entwicklung der Ganglien des Sympathicus. (*Allg. Wien. Med. Zeitung*, No. 24, 1879.)

SCHMIDT.—On the Structure and Function of the Ganglionic Bodies of the Cerebro-Spinal Axis. (*Chicago Journ. of Nerv. and Ment. Diseases*, No. 6, 1879.)

GELLÉ ON THE PHYSIOLOGICAL MOVEMENTS OF THE MEMBRANA TYMPANI.—M. Gellé (Société de Biologie, reported in *Le Progrès Médical*, Oct. 26th, 1878) has studied the movements of the entire tympanum by means of the graphic method. In ordinary deglutition, as in Valsalva's experiment, the tympanum is displaced. M. Gellé has found, however, that the maximum displacement should not amount to more than one-tenth of a millimètre, to prevent damage to the auditory apparatus; for any displacement of greater extent shakes the fenestra rotunda too much, and modifies the apparatus of hearing. From this physiological fact consequences which are useful for the treatment of diseases of the ear may be deduced.

VIERORDT ON THE COAGULATION OF THE BLOOD.—C. H. Vierordt (*Arch. für Heilk.*, Band xix, p. 198) has been engaged upon a series of investigations as to the time which elapses between the shedding and the coagulation of blood in its normal and diseased conditions. The mode of procedure was by puncture of the thoroughly cleansed skin with a needle or lancet, to obtain a drop of blood of moderate size, which was received into a capillary tube of one millimètre in diameter. In the capillary tube was placed a clean horse-hair, which became enclosed in the clot, by the coagulation. On watching the hair, it was seen to become covered with an adherent clot so long as the coagulation is going on, whilst the part which is withdrawn after coagulation

is ended is free from any such clot. This point is noticed, as well as the time of drawing the blood, and the interval between the two is assumed by M. Vierordt to be the period of coagulation. From 262 individual observations the author has found the mean time of coagulation to be 9.28 minutes, a result which is in close agreement with that given by H. Nasse, who stated that ten minutes is the ordinary time. Venous blood obtained from the finger after a ligature had been applied coagulated much more rapidly, differing from arterial blood by an average time of three minutes. A similar acceleration was found in animals which were starved, or which had been previously bled. Numerous observations on the sick gave as a general result that in diseases which chronically affect nutrition, as phthisis, scurvy, and anæmia, there was an increased rate of blood coagulation; whilst improvement in nutrition frequently caused a more lengthened period to elapse before the coagulation took place, as in convalescence after croupous pneumonia. One set of observations, however, did not agree with this rule, as in convalescence after typhus fever an increase in the time of coagulation was not observed, and this was also the case in the increase of the nutritive powers after gastrectasia.

NYBULSKI ON THE INFLUENCE OF POSITION UPON THE BLOOD-PRESSURE AND THE PULSE.—Dr. Nyburski (*Petersburger Med. Wochens.*, 1878, No. 11, abstracted in *Centralblatt für die Med. Wiss.*, Sept. 21) contributes a preliminary notice of his investigations as to the influence which the position of the body has upon the blood-pressure and the pulse. Slowing of the pulse, due to stimulation of the vagus, quickening of the respiration, and a rise of blood-pressure in the carotids, were observed when the animal experimented on—in this case a narcotised dog—was brought from the horizontal into the vertical position, with the lower limbs upwards. Exactly the reverse was observed when the animal was brought from the horizontal into the vertical position with its lower limbs under it. The pressure on the crural artery in the elevated limbs is lowered, whilst it is increased when they are hanging down. Dogs under the influence of chloroform which have lost one-twentieth of their body weight of blood become asphyxiated and die, when their hind legs are the most dependent part of the body; but death can be averted by raising the limbs.

MOSSO ON THE ACTION OF COMPRESSED AIR.—Prof. Mosso (*Atti della R. Acad. delle Scienze in Torino*, 1877, abstracted in *Centralblatt für Med. Wiss.*, Sept. 21st, 1878) considers the action of compressed air upon the distribution of blood, upon the beat of the heart, and upon the respiration. The pressure used being equivalent to two atmospheres. The investigations into the distribution of the blood were carried out by means of the Plethysmograph, which was attached to the right forearm of the individual upon whom the experiment was made. The average results obtained by this method in relation to the distribution of the blood were as follows. The first effect of the compressed air was to cause a marked contraction of the peripheral capillary vessels, whilst a rapid rise in the pressure caused the quantity of blood in the forearm to be increased; these observations, however, are not yet complete. A decrease in pressure constantly produces an important decrease in the quantity of blood in the forearm. If the pressure is allowed to sink to 440 milli-

mètres of mercury, and is kept constant at that point for three minutes, the volume of blood in the forearm is increased; but if the fall of pressure between 500-450 millimètres be delayed, the decrease in the amount of blood is still further lessened. The involuntary movements of the vessels are generally less distinctly marked after the amount of blood in the arm has been decreased by diminution of the pressure. The quantity of blood in the arm returns to the normal, when the barometer is again allowed to register the usual pressure. The results obtained by this method of investigation cannot be explained on any mechanical hypothesis, owing to the direct opposition in which they stand. Thus it is remarkable that there is a decrease in the amount of blood in the forearm at the time when the peripheral circulation should be increased, owing to a diminution in the atmospheric pressure, which would normally cause a flow of blood to the surface. By means of a water sphygmograph, Prof. Mosso has studied the changes in the heart-beat brought about by compressed air. These changes, like the preceding, cannot be explained upon a mechanical hypothesis, but are probably due to changes in the innervation of the heart. The changes consist in a decrease in the pulse frequency, observed only when the pressure begins to sink, and during the whole continuance of the fall of pressure, the number of heart-beats may be occasionally lessened, instead of being increased, and the effects last longer than the action of the compressed air. During the changes of the barometric pressure, periods of greater and less pulse frequency alternate with each other. The effects on the respiration are, greater depth of each respiration whilst under the influence of compressed air, and a decrease in the mean pressure of respiration whilst the barometer returns to the standard pressure. Prof. Mosso believes that these changes are not due to mechanical causes, as was supposed by Vivenot, and he rather inclines, with Paul Bert, to explain the phenomena on chemical grounds.

D'ARCY POWER.

SCHULTZE ON AXIS CYLINDER AND GANGLION CELLS.—(*Archiv für Anatomie u. Physiologie Anatom. Abth.*, iv, 1878). The author thus sums up the results of his observations. "I have succeeded, he remarks, by means of reagents of very different kinds, in demonstrating a fibrillar structure in the axis cylinder of the medullated nerve fibre, and, in some instances, in the abdomen of the ganglion cell in vertebrata; and I therefore hold it as very highly probable, that these primitive fibrillæ correspond to pre-existing structure-elements present in the living tissue. I have further seen indications of this fibrillar structure in the living fibre." G. THIN, M.D.

MACKELLAR ON THE STRUCTURE OF THE LAMINA CRIBROSA.—Dr. E. D. Mackellar (*Glasgow Medical Journal*, vol. x, No. 12) considers that, although the proportion differs in different eyes, yet in most cases, of the fibres entering into the formation of the lamina cribrosa, those of the choroid are in excess of those derived from the sclerotic, and that, in some eyes, the choroidal fibres are hardly supplemented by the sclerotic at all. He then discusses the bearing of this fact on hypermetropia, and argues as follows:—In every eye in which a great amount of accommodation is necessary to obtain clear vision, the choroid is of necessity pulled upon and strained by the action of the ciliary muscle, and if the lamina cribrosa be mainly formed by that tunic, it follows

that the disc, the retina, and its vessels, are all exposed to serious disturbance. Whenever the ciliary muscle contracts, the fibres of the choroid, which pass through and support the optic nerve, are put on the stretch, and the retinal vessels and disc suffer; and, whenever that muscle relaxes, the whole fundus becomes abnormally hyperæmic, from the sudden cessation of tension in the lamina cribrosa. In this manner, the author considers, many cases of retinitis, abnormal conditions of the vessels of the fundus, and hyperæmia, with subsequent anæmia and atrophy of the disc, are due, not to central changes or primary alterations in the tissues themselves, but to the effects of choroidal irritation.

E. CRESSWELL BABER, M.B.

MAJOR ON THE STRUCTURE OF BRAIN OF WHITE WHALE.—Dr. Herbert C. Major (*Journ. Anat. and Phys.*, vol. xiii, p. 127) gives the following as the results of his examination of the brain of a Beluga. In the Beluga, the cortex cerebri is of less depth than in man. The cortex of the occipital region resembles that of the frontal and parietal regions much more closely than in man. The first and second cortical layers, the fifth layer, and the adjacent white matter, agree very closely with the corresponding layers in man. The chief differences are to be found in the greater depth, in man, of the third layer, the greater number of its large nerve cells, and the absence of the special row of large cells, which in the Beluga fringe its deep margin. Further, the Beluga possesses no layer comparable with the fourth layer (granule-like formation) of man. The paper is illustrated by figures of the hemispheres and of the different layers.

W. J. DODDS, M.B., D.Sc.

BROWICZ ON THE HISTOLOGY OF ACUTE NEPHRITIS.—Dr. Thadäus Browicz of Cracow (*Centralblatt für d. Med. Wissenschaft.*, March 1st) has induced nephritis by subcutaneous injections of cantharidin in rabbits, in order to determine the changes in respect to the question in dispute as to the primary seat of the lesions. He found the kidneys large and swollen, with their cortical substance stained a deep brown red, in some places passing into a paler or yellowish colour. The histological changes were restricted to the secreting part of the organs, the labyrinth. The vascular tufts were at first swollen; later on, there was to be seen a layer of hyaline or finely granular material between the tuft and the capsule, which compressed the tuft and stretched the capsular wall. There was no nuclear proliferation to be seen in this. The same material was found in the uriniferous tubes in the shape of tube casts. This finely granular (paraglobulin?) substance, on closer examination, was found to be composed of oval short corpuscles, which cleared and partly disappeared with acetic acid. The epithelium of the narrowing urinary tubules was swollen and cloudy, even so as to occlude them. Inside the epithelial layer there were in many places round cells, which resembled in appearance, size, and staining relations those of the interstitial intertubular tissue, and in the absence of any appearance of proliferation of the epithelium were probably wandering cells. The interstitial tissue showed only a small number of colourless corpuscles, which were collected together in little groups. In the straight tubules, besides cloudiness and loosening of the epithelium, there was no change. He concludes, therefore, that the parenchymatous nephritis, de-

scribed by Virchow, is not secondary and necrotic, as Kelsch thinks, but the consequence of the exudation into the urinary tubules; and interstitial nephritis, the later stage of which is so often found *post mortem*, is a distinct process, an analogy being found in the superficial inflammatory affections of the lungs, in which the connective tissue often takes part.

R. SAUNDBY, M.D.

CLIMATOLOGY.

EDWARD DICKINSON.—*Alassio: a New Winter Station for Invalids in the Western Riviera*. Rugby, 8vo, pp. 10.

E. KUNEMAN.—*La Principauté de Monaco*. 1877, pp. 11.
LENTE, FREDERICK D.—*The Constituents of Climate, with Special Reference to the Climate of Florida*. Louisville, Ky., 1878, 8vo, pp. 56.

Mr. Dickinson does not appear to offer any very particular reasons for the creation of a new sanatorium at Alassio. No doubt, as judged by the vegetation of the place, the climate of Alassio is mild, and invalids may do well there, when sufficient accommodation is provided for them. The same may be said of many spots along the coast, including Monaco, which is probably as good a station for pulmonary invalids as for gamblers. The real reason for the growth of new places of this kind is the hankering of the public for novelty. A new health-resort is apt to be run after like a new medicine. And new air cures find enterprising doctors to write them up just as new water cures. Perhaps it is better, as other places, such as Cannes, get overcrowded, that fresh ones should spring up. I have never stopped at Alassio, and do not therefore know it, but there seems to be no reason why with favouring circumstances it should not become popular, like Bordighera, or Pegli, or Nervi, the last on the further side of Genoa, all of them among the latest candidates for public favour.

Dr. Lente takes a wide and liberal view of the subject of climate; he has read much on the subject, and in a judicious and well-balanced pamphlet he examines the elements of climate, and the conflicting views of authors on their effects.

Our author sees no reason why his countrymen should not make use of the mild winter climate they possess in Florida, and the fine summer climates of the more elevated stations they have in the interior. In short the Americans have a Riviera, and mountain stations of their own, if they choose to use them.

The health resorts recommended in Florida lie more or less on its eastern coast, in about the latitude of 32 deg. north, or very nearly in that of Alexandria. There is no question that there is much malaria in Florida, but it is also certain that it is not active during the winter months, and that it is not likely to be troublesome to visitors at that season.

The merits of the climate of Florida as compared with that of some European stations are set forth in the following rather glowing statement:

"The mean temperature of these six months in Florida is by our tables about 63°, and during about five-tenths of the days the sun shines so brightly, the air is so balmy, the song of the birds so enlivening, and the orange trees in their delicious bloom or laden with their golden fruit lend such a charm to the outlook from the windows, that the most indolent

or the most cold-blooded of invalids feel little inclined to stay indoors. Contrast such a winter with that of the boasted and time-honoured resorts of Southern France and Italy even in their most protected cities. I will say nothing of their spring, for no one who has ever tried it would trust himself there after the first of March. Even in the more sheltered localities, as at Cannes and Mentone, a change on one of the most pleasant days from the sunny to the shady side of the street often produces a shiver, and renders necessary for an invalid an extra covering. At sunset, one must rush home and indoors for life. Nor does any prudent man dare to ride out in the afternoon without the wraps he would require in his northern home. In Florida again, during most of the warm and pleasant days, one may not only be out at sunset on land, but with equal comfort on the water. I have frequently called the attention of persons to this contrast with the European climates, when we were returning from a row at sunset; some of us, in mid-winter, in our shirt sleeves. Had there been any considerable degree of dampness in the air, this would not have been prudent or comfortable; but one seldom feels any dampness on sunny days. The climate of Florida comes very nearly under Vivenot's class of moderately dry."

The question of the length of stay of invalids arises in America as in Europe. Every one knows what a rage there is to leave the Riviera in spring; it is therefore well that a physician of Dr. Bennett's experience has lately expressed his belief that this sudden rush to the north is unnecessary. The following remarks of Dr. Lente, *mutatis mutandis*, apply to us in Europe.

"When should one leave Florida on his return north? The warning has been repeated again and again by writers, 'Don't go home too early.' But still the fatal mistake continues to be made, and the sacrifices and benefits of a whole winter are often thrown away by a premature return in the spring. Better remain at home all winter than return too early in spring."

J. MACPHERSON, M.D.

REVIEWS.

Die Chirurgische Klinik zu Greifswald in Jahr 1876. By Dr. MAX SCHÜLLER, Privatdocent der Chirurgie, etc.

In the *Hospital Report* before us we have an example of what may be done in the way of working up annually the clinical material of a hospital so as to form a work useful, not merely as a dry classification of diseases treated, but one from which the student or observer at a distance, unacquainted with the hospital or its surroundings, may obtain much information of a most valuable kind.

In the first place, we have a clear classified statement of the total number of surgical patients treated, of which about one-fifth belonged to the *interne*, and four-fifths to the out-patient departments, and, though the number may appear small (2,430 patients) to one accustomed to our London general hospitals, the material is dealt with in a manner which shows us how much more might be made in the way of yearly analysis of the far greater abundance of material which passes through our hands.

The work commences with a brief description, for the benefit of surgical statisticians at a distance, of the size, shape, management, and general conditions

of this new hospital, as far as these can be indicated by words. Then follows a sketch of the nature of the surrounding country, and of the circumstances of its inhabitants, from whom the supply of hospital patients is drawn. The most prominent characteristics of their physical and moral conditions are here touched on, and also the effects of the local climate and hygiene upon these. All this is obviously one of the most essential elements of surgical statistics, the absence of which in some *Hospital Reports* must render conclusions drawn from them by those at a distance in many respects wholly unreliable.

Next we have a general statistical table for the in-patients, on the same plan as that given by Billroth in his *Chirurgische Klinik*. The horizontal headings are *a*. Injuries; *b*. Inflammatory processes; *c*. Tumours; *d*. Various. Then "Total number treated", and then "Total mortality". Arranged under these headings the affections of the various parts of the body are classed. The same kind of table is given for the *Poliklinik*, or out-patient department. The next tables are as follows—*c*. Statistics of deaths; *d*. A glance at the particulars of deaths; *e*. The meteorological conditions of the year 1876 in the adjacent island of Rügen, in the Baltic; *f* and *g* deal with the "Accidental diseases due to wounds", *i.e.*, erysipelas, septicæmia, etc., etc., for in- and out-patient departments respectively. In table *h* we have an analysis of the total number of tumours treated, with results as to death or recurrence. Then in table *j* the statistics of the operations in the hospital are given clearly; and in *k* those of the out-patient department. Under *l* the amputations and exarticulations are analysed, and under *m* the resections.

This much may be said to form the first part of the report. The letter-press between the tables is devoted to the elucidation of the latter, and many points of great interest are brought forward, special cases and particular lines of treatment are alluded to, and some very instructive general deductions are made.

The second part of the report deals with the diseases of the various regions of the body. These are classified under the headings of the several tables first given, *i.e.*, as *a*. Injuries; *b*. Inflammatory affections; *c*. Tumours; *d*. Various. First the head is taken, then the face and neck, and so on to the lower extremities. But it is not the arrangement of this part that is especially deserving of study, for this might probably be improved; it is rather the careful manner in which the various cases are considered, whether alone or in groups, and the chief points of interest regarding them brought out. Perhaps the most instructive of these relate to varieties of treatment. The first point of this kind noticeable is the good results following in compound injuries to the skull of stitching up the wounds in the soft parts over a small drainage tube. But this treatment is only justified in the author's mind by the safety from suppuration which he believes the antiseptic treatment to give. Everywhere throughout the work we have the antiseptic method of dealing with wounds spoken of in the highest terms. As carried out in Greifswald, it consists in a modification of Lister's method, salicylated jute being used for packing round the wound, instead of muslin. This modification is introduced for economy's sake, but there is no other difference noticeable.

Another point alluded to is the comparative frequency in the neighbourhood of Greifswald of car-

cinomatous tumours, but no explanation is offered of the fact. In regard to their removal the experience there leads to their being operated on very freely when meddled with at all.

As it is necessary to be brief, we will only further allude to one more interesting subject in connection with joint affections, a chapter very carefully worked up here from a large number of cases. This is the treatment of inflammations of joints by means of injections into them of solutions of carbolic acid. This line of practice having been "first methodically employed" in Greifswald, the author feels himself called upon to treat the question of its propriety at some length. As the treatment, we believe, is still unknown to many English surgeons, it may be well briefly to notice the manner in which it is carried out. First of all, Dr. Schüller seems to regard it as most suited to cases of serous or sero-fibrinous synovitis; next to those of *synovitis hyperplastica granulosa*, and whatever may be our opinion as to the justifiableness of his conclusions in regard to its success, his notes on the subject are well worthy of careful perusal. As to the operation itself, it simply consists in the injection with an extremely fine and perfectly clean hypodermic syringe needle, of a 2 or 3 per cent. solution of carbolic acid, either into the joint itself or the granulation tissue in or about it. The mode of action of this, and the results, are given in the text, but cannot further be alluded to here.

The effects of free incision into joints under antiseptics are next spoken of, and compared very favourably with those of injection just alluded to. The consideration of this point appears to us of the greatest importance, and the experience of surgeons in various localities ought to be carefully examined as the surest means of setting the question at rest as to whether (as Mr. Thomas believes, and with him many surgeons of repute) we have not here an important substitute for resection in many cases.

ARTHUR E. BARKER.

Clinical Lectures on Diseases of Bone. By C. MACNAMARA, F.C.U., Surgeon to the Westminster Hospital, London. Macmillan and Co. 1878.

In giving a brief abstract of the matter contained in this work, we cannot promise to present to the reader much of special interest while there are but a few points in the work that have any real novelty.

We have first a short chapter on the development and anatomy of bone, too lightly sketched to be easily comprehended by the student, and on the other hand superfluous to the ordinary reader. In it a very brief allusion is made to the arrangement of the vascular system of bone, and lacunar terminations of the smaller vessels in the medulla are described as like the cavernous splenic veins. This somewhat new theory is touched on, but hardly gains much support from anything in the text.

In the next chapter we have less theoretical and histological detail and more clinical experience, and probably for this reason far more instruction. Here there is a good description of osteomyelitis based upon several carefully observed cases. This disease is contrasted with suppurative periostitis, and the modes of dealing with each are given in a good practical style. The less well-known affection epiphysitis, is next considered, and some light is thrown upon the subject. Chapter III, dealing with hypertrophy, hyperostosis, chronic rheumatic arthritis, and diffuse sclerosis of bone, contains some instructive cases, but little more.

In the next three chapters, which may be read with much advantage, the author discusses the subject of scrofulous or tuberculous affections of bone. And although his arguments cannot be considered as conclusive in regard to a true tubercle in bone, he nevertheless points out, in several very interesting specimens, that there are morbid products to be found in the latter which have many points of resemblance to that material known (in the lungs, for instance) as tubercle. He shows, further, that these may undergo the same changes in bone as those with which we are familiar in other organs. Thus he points out that the "spawn-like" fibro-cellular bodies which he holds to be true tubercle, may undergo liquefaction or caseation, calcification or fibroid change. The further clinical history of the cases is shown, too, to be very like that of tuberculous disease. Some observations on the appearance of bone in lymphadenoma are also included in these chapters, as bearing upon the question of the presence of abundant lymphoid tissue in the medulla of bones, and as supporting the theory of tubercle. But the most valuable portion of this subject is that of treatment, which is ably handled. Here, too, we find support to the growing feeling, so widely spread among surgeons, that in most cases of scrofulous diseases of the knee and hip, whatever the age of the patient, excision is not the most desirable mode of treatment. The author evidently leans to amputation in advanced cases, without saying anything about the practice of free incision and drainage. We next have a chapter on syphilitic bone affections, but here there is not much to notice as valuable. Then come the questions of fracture, sclerosis, and ulceration of bone, which, as far as illustrative cases go, are instructive.

The last two chapters are devoted to the consideration of the morbid growths of the osseous system.

ARTHUR BARKER.

Die Hautkrankheiten für Aerzte und Studierende.

By Dr. GUSTAV BEHREND. Brunswick: Friedrich Wreden. 1879.

Although this book is essentially a compilation from the more modern dermatological literature, and, in common with nearly all the books on skin diseases that have been published of late years, owes much to Hebra's standard work, it is likely to prove useful not only to students and practitioners, for whom it is especially designed, but also to those who occupy themselves more or less exclusively with the subjects with which it deals. Diagnosis and treatment are handled especially in a comprehensive spirit, although the conciseness which is necessary in a manual of the kind is not lost sight of. An appended chapter on syphilis as it affects the skin contains in a condensed form an excellent account of the symptoms and treatment of this disease.

To those who wish to understand the present standpoint of dermatological diagnosis and therapeutics, without having to encounter the study of large volumes, we cordially recommend this manual. Students and practitioners who read German will hardly find a better.

G. THIN, M.D.

NEW INVENTIONS.

THE KEPLER MALT EXTRACT.

Messrs. Burroughs and Co., 8, Snow Hill, forward us specimen bottles of Concentrated Extract

of freshly malted Barley, Wheat, and Oats, prepared by the above-named Company; also of this Extract in combination with pure Norwegian Cod-Liver Oil. We have exhibited both these preparations to patients suffering from phthisis, scrofula, and strumous ophthalmia, with decided benefit; we can, therefore, confidently recommend them to the favourable notice of the profession, as well calculated to meet a want in the efficient therapeutic and dietetic treatment of the constitutionally debilitated. The Malt Extract can be given alone in teaspoonful and dessertspoonful doses; that with Cod-Liver Oil is best mixed with milk. Children will readily take either of these preparations. It is a noticeable feature in the mixture of Malt and Cod-Liver Oil that the nauseous fishy taste is effectually disguised.

MESSRS. COW HILL AND CO.'S IMPERMEABLE GLOVES.

These impermeable films of India-rubber may be most strongly recommended both for the purposes of general practice, of accouchement, and of the dead-house. Instances are now almost beyond counting in which medical men have performed *post mortem* examinations on subjects pregnant with infected poisons, and have themselves been infected and subsequently suffered severely, and in many cases fatally, from pyæmia. Likewise, in the course of accouchements, many a practitioner during vaginal examination has become infected and suffered permanently for the rest of his life. It would be a very wise precaution if practitioners should decide invariably to use the impermeable glove when making *post mortem* examinations, and in all doubtful cases of vaginal examinations. The makers of these gloves are Cow Hill and Co. of Cheapside. Although impermeable, as their name implies, the gloves are of a filmy thinness, so that they do not interfere with the delicacy of touch, and their use is, we believe, compatible with a very delicate perception of surface.

LONDON MANUFACTURING COMPANY'S ESSENCES OF MEAT.

LONDON AND NEW YORK.

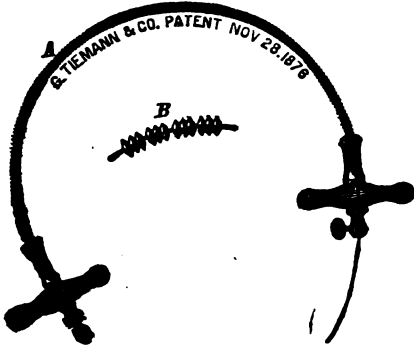
We have received from Messrs. Burroughs and Co., 8, Snow Hill, Holborn Viaduct, sole European agents for the above Company, specimen tins of Essences of Beef, Mutton, and Chicken. These we have submitted to careful examination and trial. On opening a tin, the characteristic odour of the meat is so strictly preserved, that, by the smell alone, you can immediately distinguish the one from the other, whilst the taste is similarly recognisable. At an ordinary temperature they are of jelly-like consistency, consolidating when placed in ice. They are extremely palatable, and can be given in teaspoonful doses to an invalid, without dilution with water, or any other admixture. These Essences will be found admirably adapted for all persons suffering from enfeebled digestive organs, in phthisis or wasting diseases, in convalescence from severe illness, and an useful adjunct in artificial feeding of infants. They will also be found very useful to travellers, and generally by all persons whose occupations necessitate long and continuous attention to business.

DESCRIPTIVE REPORT OF SURGICAL INSTRUMENTS,

RECENTLY INTRODUCED BY BRITISH AND FOREIGN MAKERS.

TIEMANN'S NEW SAW.

This is intended to replace the common chain saw. It consists of two handles connected by a wire of cast-steel, on to which are strung a series of steel



beads with sharp-cutting edges. The beads can be strung on another wire in case of a fracture. Made by Tiemann, New York.

DR. SHRADY'S NEW SUBCUTANEOUS SAW, KNIFE, AND BONE RASP.

The instrument consists of a trocar, fenestrated cannula (Fig. 1), and a staff (Fig. 2), with handle and blunt extremity. A portion of this staff, at a short distance from the extremity, is flattened, one

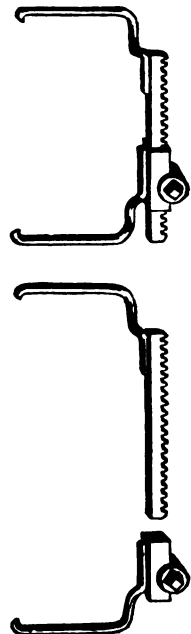
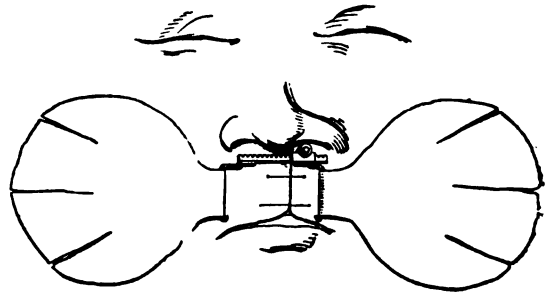


edge (B) being made into a knife-blade, and the other (C) being provided with saw-teeth. This staff

(Fig. 2) is intended to replace the trocar in the cannula after the latter is introduced. When in position (Fig. 3), either the saw (C) or the knife (B) edge of the shaft, according to the way in which the latter is turned, corresponds with the opening in the cannula. The saw or knife can then be worked to and fro within the cannula by a piston-like movement, the cannula being steadied by grasping the flange (D) at its base. If it be necessary to work the instrument as an ordinary blunt-pointed sheathed saw or knife, the shaft can be fixed in the cannula and made into one piece by a thumb-screw in the handle. Made by Tiemann, New York.

PROFESSOR DE ROUBAUX'S INSTRUMENT FOR OPERATING ON HARE LIP.

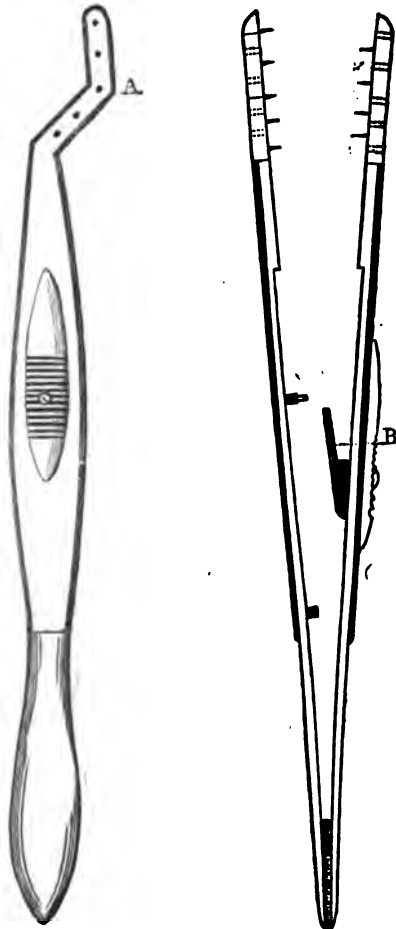
This instrument consists of a steel plate, one end of which is terminated by a vertical hook, and the



other fixed in a mortice, which is likewise terminated by a hook running in the same direction as the other one, and furnished with a pinion, by means of which the hook may be freely moved on the plate towards or from the other hook. The plate is then applied to the lip and fixed there by means of two pieces of oiled silk, which are folded so as to form a loop round each hook, and then made to adhere to the cheeks of the patient. Made by G. Clasen, Rue de l'Hôpital, Brussels.

SOUPART'S FORCEPS FOR PREVENTING THE OCCURRENCE OF DEFORMITIES AFTER THE OPERATION OF HARE LIP.

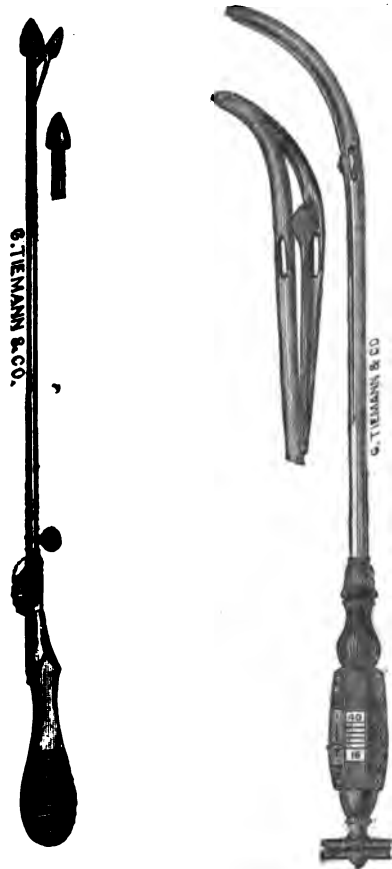
The form of this instrument is that of an ordinary forceps, the ends of which are bent so as to form an obtuse angle, and covered on their inner surface with sharp small points a few millimètres distant from each other, fitting into corresponding openings in the other branch. The points are applied to the



rim of the wound to freshen it up. During the operation, the angle A must be placed exactly on the red margin of the lip, and the blades fixed in their position by means of the slide B. The surgeon then holds the forceps with his left hand, and runs the blade of a bistoury along the angle of the forceps so as to freshen the edges of the wound. Made by G. Clasen, Rue de l'Hôpital, Brussels.

DR. GROSS'S NEW URETHROTOME.

This instrument is a metallic exploring bougie; the slender shaft is provided with a handle and groove for the reception of a steel rod, to one end of which is attached the blade, and to the other a button, through the retraction of which the former is projected from the under surface of the bulb, so that the incision may be made along the floor of the urethra. The extent to which the blade can be projected is regulated by a lateral screw near the handle. The length of the contrivance is eleven inches (Fig. 1). Fig. 2 represents a dilator, for the

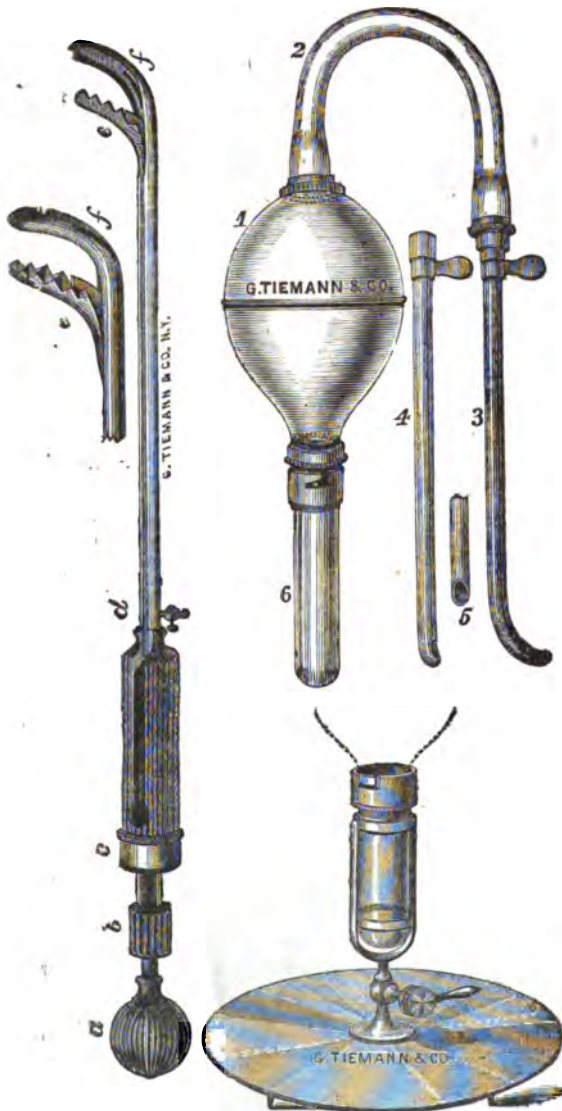


purpose of stretching the severed parts without injury to the urethra. It consists of a No. 16 steel sound, the terminal two-thirds of which are split into two halves, to form the blades. These are united at the vesical extremity, where they are carefully bevelled, and can be separated laterally, so as to form a spindle-shaped body, by a flattened cone attached to a rod, which is worked by a wheel at the proximal end of the handle, the extent to which the blades can be parted being indicated by a register marked in millimètres, attached to the handle.

In using the instrument the blades are expanded sufficiently to traverse the meatus when its centre is made to correspond with the divided stricture, and the wheel is slowly turned until the register indicates that the desired degree of distension has been reached. By reversing the wheel, the blades are approximated, and the dilator withdrawn. Made by Tiemann, New York.

BIGELOW'S APPARATUS FOR RAPID LITHOTRITY, WITH EVACUATION.

Bigelow's lithotrite is a non-fenestrated instrument, the male blade of which is furnished with alternate triangular notches, by which the *débris* is discharged laterally, and with a long thin spur at the heel, fitted to a corresponding slot in the female blade. The latter is made a little longer and wider than



usual, to repel the bladder, and its floor is nearly on a level with its rim.

The instrument for evacuation is a large straight tube, with a distal orifice, connected with an elastic aspirating bulb, and a glass receptacle for *débris*. Made by Tiemann, New York.

DR. BATES'S NEW APPARATUS FOR ARRESTING URETHRAL HÆMORRHAGE.

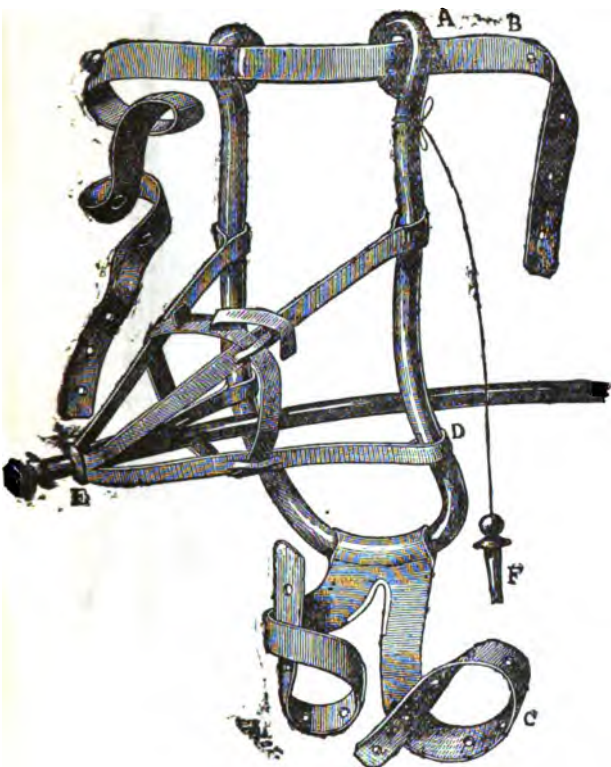
This instrument consists of a thin, soft, rubber pouch, three-fourths of an inch wide, and eight inches long. The outer end has three openings, two are furnished with stop-cocks. The centre is traversed by a No. 5 gum elastic catheter, the end of which, after piercing the lower extremity of the point, is fastened, and cut off. Over this, part of a soft rubber catheter is passed, and firmly secured. A stylet passes through the catheter. It is used as follows: after thorough division of the strictures, the instrument is introduced, so that the end of the catheter rests in the bladder or outside, the stylet is then withdrawn, and a plug inserted in the end of the catheter. The instrument is then tied in. To the stopcock C is attached a fountain syringe or tube communicating with a vessel containing ice-water; to stopcock B is attached a rubber tubing for the purpose of conducting the refuse water to a receptacle. When all is ready, the stopcock C is opened, and the syringe raised to any height; the stopcock B is opened to regulate the outflow of water. Made by Tiemann, New York.



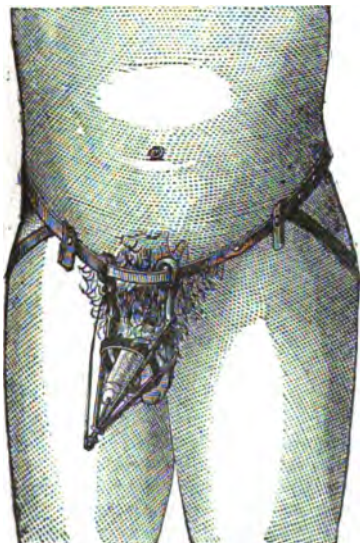
DR. TESERONE'S NEW APPARATUS FOR MAINTAINING THE CATHETER PERMANENTLY IN THE BLADDER.

The name given to this instrument by its inventor is *gambetto*. It consists of a wire, made either of iron or copper, from 16 to 18 inches long, according to the stature of the patient, and 2 millimètres thick. It is bent double in the form of a U, and covered with a rubber tube of medium size. The ends of this wire are then bent so as to form two loops, of a diameter of one inch, through which runs the belt by which the contrivance is fixed to the pelvis. The wire is then again bent into a concave and convex shape, so as to make its concavity fit into the convexity of the pelvis (A). Three straps are then attached to the *gambetto*, to keep it in place. The first, or circular one (B), forms the belt; it is 2 centimètres wide, or more, and can be wadded, if required, for very sensitive persons. It is drawn twice through the left loop, and as often through the right. Both ends are left free: one is 10 inches long, and the other 1 yard and 3 inches. They attach the contrivance round the pelvis. The second strap (C) passes under the thighs; it is 1 yard and 12 inches long, and as wide as the former. It is lined, and runs over the middle part of the *gambetto*. Both ends pass under the thighs and are fastened in front, either by tying them across the pelvis or by rolling them over the circular strap. The third strap (D) supports the catheter; it is 1 yard and 14 inches long, but 5 millimètres narrower than the others; it is of solid tissue, wadded, and placed above the second strap, where it is fixed to the *gambetto*, as is seen in the wood-cut. The instrument is then ready, and it only remains to in-

introduce it. This is done in the following manner : After having passed the catheter into the bladder, it is placed, together with the penis, in the opening



of the *gambetto*; the belt-strap is then tied over the right groin; the ends of the strap (C) are passed across the pelvis from behind, towards the anterior border of the corresponding iliac bone, and fixed firmly to the strap B, by rolling its ends round it. Thus the *gambetto* is attached to the body, and we now proceed to fix the catheter. The strap D is



then tied to the extremity of the catheter (E), keeping the catheter in a slightly sloping position ;

the straps are then tied several times, both underneath and across the catheter, and the ends rolled around the branches of the *gambetto*, as is seen in the woodcut. In order to close the opening of the catheter, a small wooden stopper (F) is used, which is suspended from the belt by a string.

DR. WALES'S NEW RECTAL DILATOR AND EXPLORER.

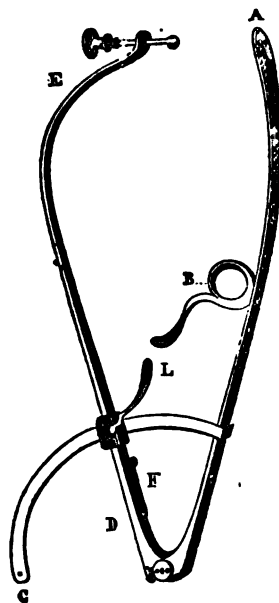
This instrument consists of a dilator, over the distal extremities of which a hood of thin india-rubber two inches long is drawn, and secured at the edge. It is then coated with stiff grease, and introduced into the bowel till its point is lodged far above in



the ascending colon. A syringe is attached to the instrument, and its point expanded into the form of a ball. Gentle traction is now made, which will cause the ball filled with water to move slowly down the bowel. If no obstacle is present, the ball will soon emerge from the anus ; obstruction will arrest it above.

DR. VAN HUEVEL'S PELVIMETER.

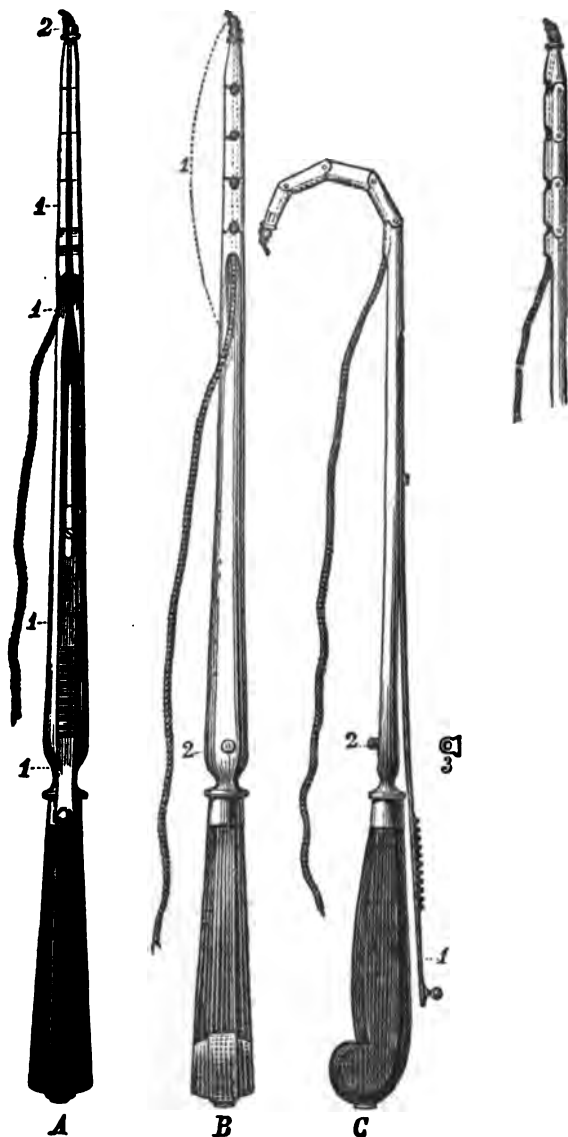
This pelvimeter is in the form of a pair of compasses, the branches of which are called A and E ;



A is fixed, but E moves freely on the semicircular plate C. A hooked ring B is attached to the middle part of the branch A, the movable branch E is inserted into the hollow tube D, and can be made longer or shorter by means of a screw. The spring F maintains the branch E in any position of extension after the measurement has been made. This pelvimeter is called the "Universal", because it is so constructed as to execute both external and internal measuring. Made by G. Clasen, Rue de l'Hôpital, Brussels.

PROFESSOR HYERNAUX'S ARTICULATED HOOK.

This steel hook is in the form of a finger, consisting of four very flexible joints. It may be straightened by means of a string (1, figs. A and C), which



runs through each of the grooves on the dorsal surface of the phalanges. The latter are hollow, and another string runs through them, which is attached to a movable knob forming the end of the hook.

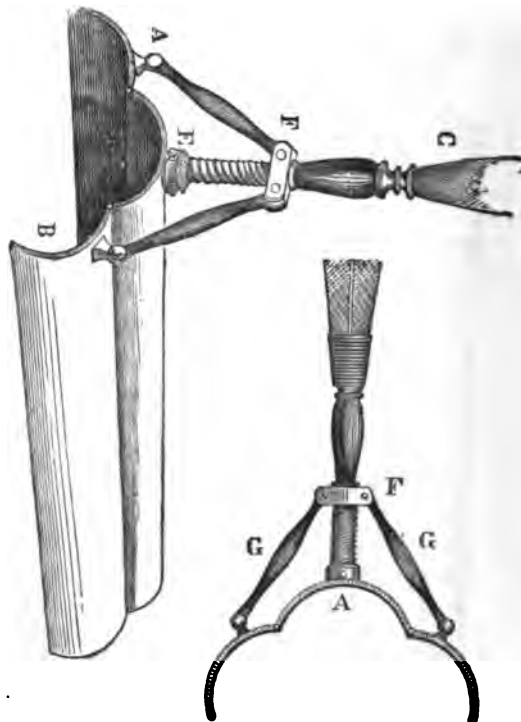
This instrument is used in the following way. It is straightened, and introduced into the uterus by the right hand, following the left, which is used as a guide. When the desired point has been reached, the string which runs through the grooves is slackened, and a slight impetus is given to the instrument. The phalanges immediately bend and grasp the part which has to be removed. The string being thus left, through the withdrawal of the hook, in a certain position, the hand is next introduced into the womb, and removes the knob and the string attached to it. Made by G. Clasen, Brussels.

DEVAUX'S SPECULUM SOFA.

This contrivance resembles an ordinary sofa, with the exception that the seat is higher. For ordinary examinations, the sofa suffices, in its ordinary form, but if used as a speculum sofa, the lower half of the seat must be thrown back on the upper half. The seat of the speculum sofa, which, together with its footrest, is fixed beneath the movable half, is then at a height of three feet above the floor. It consists of two parts, one of which is movable, and the other fixed; the former, which was originally the foot of the sofa, now becomes the headrest of the patient, and may be inclined at various angles by means of an iron bar. The feet of the immovable portion of the sofa project about half-way on the side where the physician stands during the examination, and carry a foot-board, by the aid of which the patient mounts to the seat. Below this board is a drawer for the instruments. (See Figs. 1 and 4, on opposite page.) Made by Devaux, Paris.

SOUPART'S TRIVALVE SPECULUM.

This instrument consists of three valves, two lateral (B) and a central (A), on which the lateral ones move freely up and down like two wings. The handle (C), which is placed at the outer extremity of the instrument, serves at once to maintain the instrument in the vagina, and to spread out the lateral valves more or less. By means of the speculum, the practitioner is not only enabled to see the fundus



of the vagina and the neck of the uterus, but also to dilate the vagina more gradually and to a greater extent than is feasible with Sims's instrument. Another of the advantages of this speculum is that it separates at once the nymphæ and labia minora, so as to enable the examiner to dispense with assistants. (See also Fig. 3, on opposite page.) Made by G. Clasen, Rue de l'Hôpital, Brussels.



Fig. 1.—Devaux's Speculum Sofa.



Fig. 2.—Hanks's Dilator.

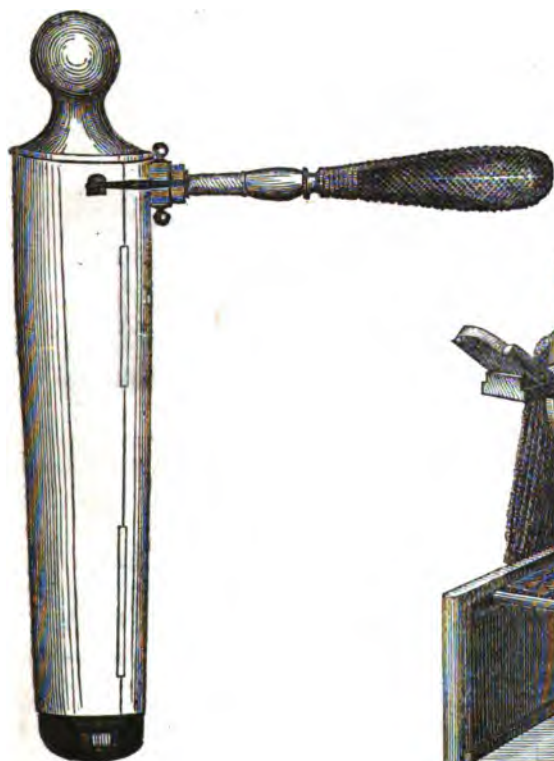


Fig. 3.—Support's Travaux Speculum.

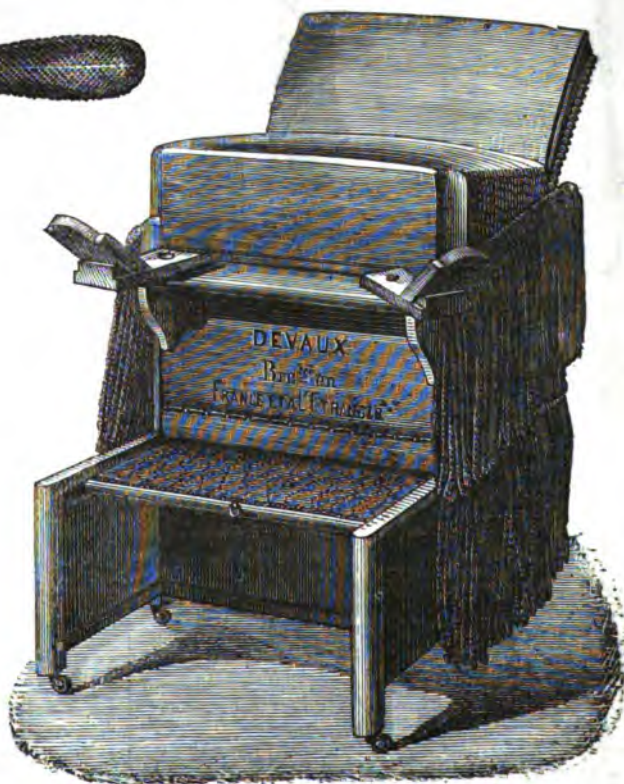


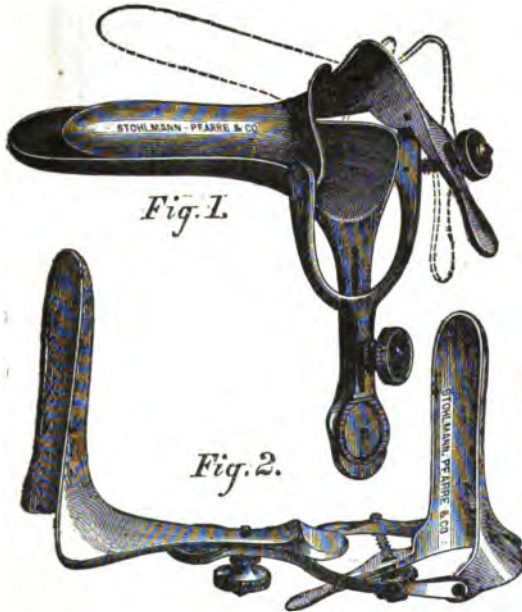
Fig. 4.—Devaux's Speculum Sofa.

DR. HANKS'S DILATOR.

This instrument is constructed for the purpose of rapidly and forcibly dilating the cervical canal. Each dilator is hollow and ovoid. The larger end of each is made to fit either end of a screw handle rod, which is curved in opposite directions at each extremity. They are made in ten different sizes, the smallest being first introduced into the cervix, then withdrawn, and the opposite longer one introduced; the first used is then unscrewed, and a larger dilator screwed on instead. This is repeated till the cervix is sufficiently dilated for the purpose. (See Fig. 2, on previous page.) Made by G. Tiemann, New York.

DR. GRAVES'S NEW VAGINAL SPECULUM.

This vaginal speculum is a combination of the "bivalve" and "Sims" forms. The expansion of the lips of the blades is accomplished by a short side lever (Fig. 1). When reverted it can be used as a



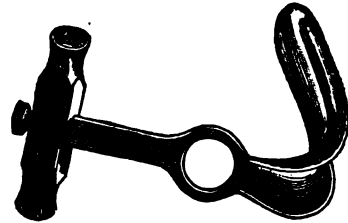
"Sims" (Fig. 2). It will accommodate itself to the variable dimensions of different vaginæ. The instrument is introduced, the posterior vaginal wall retracted, and the sliding bar pushed forwards, with its attached anterior blade, till the latter rests under the pubic arch and is secured by means of the set screw.

SIMS'S DUCKBILL SPECULUM.

Dr. Alexander Duke, of Dublin, brings before the notice of the profession a modification of the usual form of Sims's duckbill speculum, as sold by the instrument makers. The blade is made much flatter and somewhat broader, and the part connecting the blade with the handle has a bevelled ring to admit the finger, which takes off some of the strain from the wrist, and gives greater facility for manipulation.

The advantage of the blade not being so deeply hollowed is, that when used while plugging the

vagina, there is much less liability to catch in the plug and pull it out altogether, as frequently happens with the ordinary form of blade.



Anyone who has been obliged to hold one of the ordinary duckbill specula, or one with the straight handle (Simon's) during a lengthened operation, sometimes lasting more than an hour, as in vesico-vaginal fistula, etc., will appreciate the cross handle, which is movable, and being only fixed by a screw, can be carried separately, and when required adapted to any sized blade; and which by bringing the flexors instead of the extensors of the arm into play, gives immense power of traction and is not nearly so fatiguing as when the straight-handled modification or the older-shaped duckbill is used.

Messrs. Arnold and Co., Smithfield, are the makers in London, and Mr. John Whyte in Dublin.

RAYNAL'S BELT FOR THE PURPOSE OF FIXING RELAXED SYMPHYSIS.

This belt consists of a large piece of leather, which is shaped so as to adapt itself to the form of the pelvis. On the outside of it runs a flexible steel strip about two inches wide. By means of this belt,



the whole surface of the pelvis, from the costal iliac down towards the trochanter, is compressed, and at the same time supported.

DR. VORSTÄDTER'S ÉCRASEUR, WITH SPRING-CLAMP, FOR OVARIOTOMY AND EXTIRPATION OF THE UTERUS.

The spring-clamp consists of two parts, a transverse car (*a*, figs. 1 and 2), to both ends of which the staves (*b*) are fixed, and furnished with a spiral spring (*c*). In the centre of the car are two openings for the chain of the *écraseur*. The second part consists also of a transverse car (*d*), which moves freely on the staff (*b*), and has a screw in the centre for the purpose of fixing the chain of the *écraseur*. The ends of the latter (fig. 3) pass between two metal discs, which are pressed against each other by means of a screw. By this method, any portion of the chain can be screwed in again if it should

happen to break, and the operation will not be interrupted. In using this instrument, the chain is passed round the pedicle; its ends are drawn through the opening of the central car (*a*) and set screw (*c*); it is then fastened to the handle of the *écraseur* by means of the screw, and the *écraseur* begins its

Fig. 1.



Fig. 2.



Fig. 3.

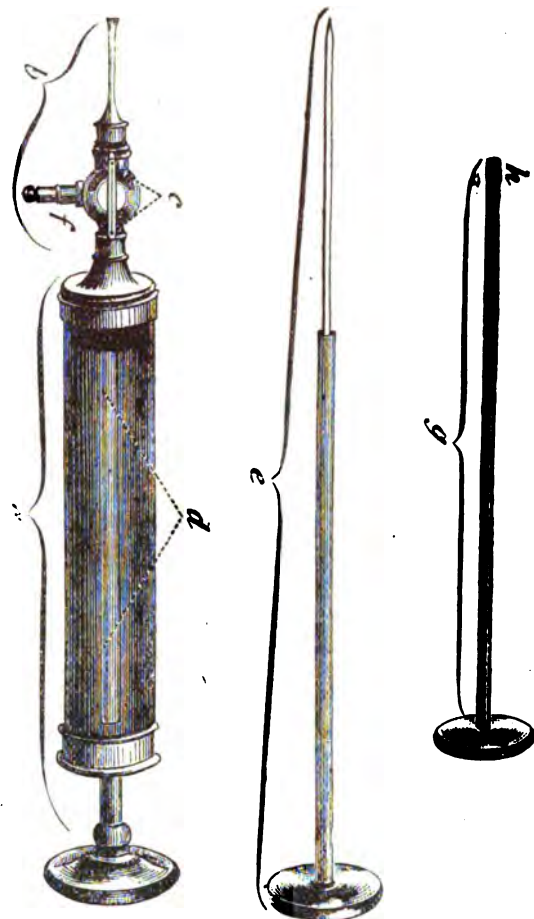


work. When the pedicle has been sufficiently compressed, the screw (*c*) is turned, and the *écraseur* removed. The chain and springs remain on the pedicle (fig. 2); if the latter should become smaller, the loop of the chain, being compressed by the springs, will also diminish. By this plan, hæmorrhage will be avoided. The instrument has been made by F. Marconi, van Swietengasse, Vienna.

DR. AUFRECHT'S SYRINGE FOR THORACENTESIS.

The syringe *a* carries at its end the cannula *b*, which is furnished with a doubly perforated stop-cock *c*. The piston *d* is also perforated, so as to allow the trocar *e* to be pushed through the handle, piston, stop-cock, and cannula *b*. The other extremity of the trocar must protrude sufficiently beyond the cannula to enable the operator to penetrate the thorax. After this has been done, the trocar is pulled back, and the stop-cock turned. In this way the cannula *b* is made air-tight, and, by turning a little more, the cannula *f* is placed in communication with the opening of the syringe. The trocar is

then removed altogether, and in its stead the staff *g*, having at its end the rubber ring *h*, introduced into



the piston. The stop-cock is then turned back into its former position, and the fluid is aspirated into the syringe. This contrivance is made by Amschler, of Magdeburg.

MISCELLANY.

THE CARMICHAEL PRIZES.—The adjudicators of the Carmichael Essays, Messrs. Mapother, McClintock, and Stokes, have awarded the first prize of £200 to Mr. Walter Rivington of London; and the second, of £100, to Mr. Thomas Laffan of Cashel.

UNIVERSITY OF LONDON.—The following Examiners for 1879-80 were elected at the meeting of the Senate on Wednesday, the 7th instant. *Practice of Medicine*—W. H. Dickinson, M.D. *Surgery*—G. W. Callender, F.R.S., and John Cooper Forster, M.B. *Anatomy*—Professor John Curnow, M.D., and Professor Redfern, M.D. *Physiology*—Philip H. Pye-Smith, M.D., B.A., and Professor J. Burdon-Sanderson, M.D., F.R.S. *Obstetric Medicine*—J. Hall Davis, M.D., and Henry Gervis, M.D. *Materia Medica and Pharmaceutical Chemistry*—Professor E. B. Baxter, M.D., and Professor Sydney Ringer, M.D. *Forensic Medicine*—Professor Ferrier, M.D., M.A., F.R.S., and Thomas Stevenson, M.D. *Chemistry*—Professor Debus, Ph.D., F.R.S., and Professor Dewar, M.A.,

F.R.S. *Botany and Vegetable Physiology*—W. T. Thiselton Dyer, M.A., B.Sc., and Maxwell T. Masters, M.D., F.R.S. *Comparative Anatomy and Zoology*—Professor E. Ray Lankester, M.A., F.R.S., and A. Milnes Marshall, D.Sc., M.A. *Geology and Palaeontology*—Professor T. Rupert Jones, F.R.S., and R. Davies Roberts, D.Sc., M.A.

MR. NETTLESHIP has published a series of observations on Ophthalmic Practice (*St. Thomas's Hospital Reports*, vol. 8), some of his cases bearing out Mr. Hutchinson's opinion, that disorganising changes in the vitreous are amongst the occasional consequences of sexual exhaustion.

PERFUMED IODOFORM.—A solution, which was presented at the Dublin Pharmaceutical Conference, was prepared by shaking tincture of iodine with a fragment of fused potash, until the colour was removed, and covering the odour of the iodoform produced by the addition of eau de cologne or lavender water. Lint dipped in this solution and afterwards dried, proved a pleasant and efficient application to indolent sores.

A FEMALE BOTANIST.—The death is announced of Countess Fiorini Mazzanti, one of the most illustrious female cultivators of natural science Italy has produced. Of her numerous works the best known are her *Appendice al prodromo della Flora Romana*, published in 1824, and her *Biologia Romana*, written in elegant Latin. She was a member of several scientific academies, and highly esteemed by the most celebrated botanists of Europe. Though in her 80th year, she was occupied on a work upon the spontaneous flora of the Colosseum, in course of publication in the acts of the Academy of the Nuovi Lincei.

DOMESTIC FIRE EXTINGUISHER.—A letter from Mr. Parr, Pharmaceutical Chemist, to the *Nottingham Daily Guardian*, conveys a hint that may be of practical use in an emergency. Casting about for a ready means of dealing with such an accident as that of a dress catching fire, he was led to try the effect of the release of the carbonic acid gas with which aerated water is charged. An old calico dress was suspended and set fire to in several places, and when the flames had quite surrounded it, the contents of a syphon bottle of soda water were spurted directly on to the blazing fabric. The result was that the flames were extinguished in less than a minute, with a completeness that would hardly have been obtained by the use of several gallons of ordinary water.

ANTHROPOMETRICAL MEASUREMENTS.—Some very curious and interesting results in anthropometry have lately been obtained: some of the most interesting of them having been recently published by Dr. A. Weisbach, chief physician to the Austro-Hungarian Hospital in Constantinople, who has probably taken more measurements of living men than any other anthropologist. Dr. Weisbach's measurements refer to 19 different peoples and more than 200 individuals from the most various parts of the earth. The most interesting of these measurements refer to the pulse, the length of the body, the circumference of the head, the height and length of the nose, as well as the comparison of the length of the arms and bones with each other. Thus, for example, the number of pulse-beats per minute varies within wide limits: the Congo Negroes (62), and next to them the Hottentots and Rumanians (64), have the slowest pulses. Then follow the Zingani (69), Magyars and Caffres (70), North Slaves (72) and Siamese (74), Sundanese and Sandwich Islanders (78), Jews, Javanese, and Bugis (77), Amboinese and Japanese (78), and lastly the Chinese (79). The quickest pulses belong to the Tagals (80), the Madurese and Nikobars (84). As to height, the smallest among the peoples measured are the Hottentots (1,286 millimètres); this is far behind any other people, as the next, the Tagals, are 1,562. Then follow the Japanese (1,569), the Amboinese (1,594), Jews (1,599), Zingani (1,609), Australians (1,617), Siamese

(1,622), Madurese (1,628), South Chinese (1,630), Nikobars (1,631), Rumanians (1,634), Sundanese (1,646), Javanese (1,657), Magyars (1,658), Bugis (1,661), North Slaves (1,671), North Chinese (1,675), and Congo Negroes (1,676). The longest measurements, however, are found among the Sandwich Islanders and Kanaks (1,700 millimètres), Caffres (1,753), and the Maories of New Zealand (1,757). To compare these with the stature of European peoples, we find that that of the English and Irish is 1,690 millimètres; the Scotch, 1,708; Swedes, 1,700; Norwegians, 1,728; Danes, 1,685; Germans, 1,680; French, 1667; Italians, 1,668; and, lastly, Spaniards and Portuguese, 1,658. The greatest circumference of the head is found among the Patagonians (614 millimètres) and Maoris (600). Following these are the Caffres (575), Nikobars (567), North Slaves (554), Congo Negroes, South Chinese, and Kanaks (553), Tagals, Sundanese, and Rumanians (552), Japanese (550), Bugis and Jews (545), Amboinese (544), Javanese (542), Hottentots (540), and, lastly, the Zingani and Siamese (529). Stature and circumference of head generally stand to each other in opposite relations; although there are exceptions, as in the case of the Siamese with small stature and small head, and the Patagonians with great height and large head. The breadth of the root of the nose is found greatest among the Patagonians (41 millimètres), less among the Congo Negroes (36), Australians, Maoris, and South Chinese (35), Sundanese, Amboinese, Bugis, Nikobars, Tagals, and Kanaks (34), North Chinese, Caffres, North Slaves, Rumanians, Magyars, and Zingani (33), Jews, Japanese, Siamese, Javanese, and Hottentots (32). The Jews and Patagonians excel in length of nose (71 millimètres). Following these are the Kanaks (54), Rumanians (53), North Slaves and Maoris (52), Tagals (51), Japanese and North Chinese (50), Siamese, Magyars, Zingani, Madurese (49), Amboinese (48), Nikobars (47), Sundanese, Javanese, South Chinese, Caffres (46), Hottentots (44), Congo Negroes (42), Bugis (41), and Australians (30). The breadth of the nostrils gives quite another arrangement. Here we find the Australians excel (52 millimètres); then come Congo Negroes (48), Caffres and Patagonians (44), Tagals (42), Nikobars (41), Hottentots and Sundanese (40), Malay races (39), South Chinese (37), North Chinese (36), Japanese, North Slaves, Rumanians, Zingani (35), Magyars and Jews (34). With regard to the bust, it is found that the North American Indians and the Polynesians excel all others in size. Next to them come the North, Middle, and East Europeans; after them come the West Europeans, Negroes; and after them the South Europeans, who are followed by the East Asiatics and Malays. Among European peoples, in respect of race, we find the narrowest chests among the Semites, followed in order by Romanes, Celts, Fins, Zingani, Germans, and Slaves. Interesting results are obtained by comparison of the length of arm and the leg-bones. Among East Europeans the leg-bones throughout are longer than the arm; among Australians, Polynesians, and especially East Asiatics and Patagonians, the leg-bones are shorter than the arm; among Africans only the Congo Negroes have the leg-bones longer than the arm. Dr. von Scherzer, from whose paper these details are extracted, points out some important conclusions to be drawn from these data as to the classification of races of men. These we have not space to go into. While, of course, it would be quite misleading to build any classification upon anthropometric measurements alone, their importance, when obtained in large numbers and with trustworthy accuracy, as a help to anthropologists is very great.

RECENT REPORTS OF PROFESSORS **VIRCHOW, LIEBREICH, & OERTEL** ON **APOLLINARIS WATER.**

The following are Translations of Reports on Apollinaris Water which have been recently received:—

Translation of Report on Apollinaris Water by Dr. VIRCHOW.

The natural Apollinaris Water of the Apollinaris spring, near Neuenahr, is an alkaline gaseous water which may be used HABITUALLY as a TABLE WATER. Its PLEASANT TASTE and its RICHNESS in PURE CARBONIC ACID FAVOURABLY DISTINGUISH IT FROM THE OTHER SIMILAR MINERAL WATERS.

Professor Dr. VIRCHOW,

BERLIN, 24th December, 1878.

University of Berlin.

Translation of Report on Apollinaris Water by Dr. O. LIEBREICH.

* * * * *

I do not hesitate to give it as my deliberate opinion (Urtheil) that the natural APOLLINARIS WATER, as offered to the public, is an EXCEPTIONALLY PLEASANT and VALUABLE TABLE WATER, the chemical character of which recommends it in HYGIENIC as well as DIETETIC respects. It has also the advantage of maintaining its FRESHNESS on the PALATE (bewährt sich) when CONSTANTLY USED.

Dr. OSCAR LIEBREICH,

BERLIN, 5th January, 1879.

Professor of Chemistry at the Berlin University.

Translation of Report on Apollinaris Water by Prof. OERTEL.

I have been enabled to make for many years the most convincing observations of the excellent effect of Apollinaris Water. I have always obtained the best success with this water in cases of severe DISORDERS of the DIGESTION, in PHTHISIS, during CONVALESCENCE from severe illnesses, after TYPHUS, PNEUMONIA, ARTICULAR RHEUMATISM, and also in DIPHThERIA, and in the various other diseases in which it was necessary to produce a TONIC EFFECT upon the STOMACH and the DIGESTION. I have of late almost EXCLUSIVELY EMPLOYED IT. As a refreshing beverage—alone or mixed with wine—it certainly takes the FIRST RANK among MINERAL WATERS. I have much pleasure in communicating my experience for publication.

Professor Dr. M. J. OERTEL,

Munich, 19th March, 1879.

University of Munich.

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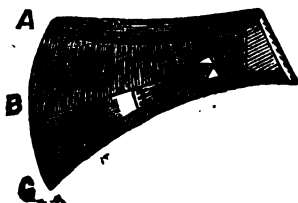
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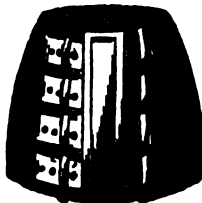


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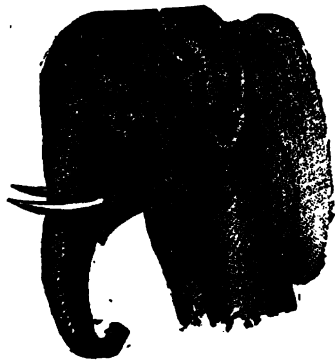
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SCHEDE ON ENTERORAPHY.

IN a report of a clinical lecture by Prof. M. Schede (*Deutsche Medicinische Wochenschrift*, No. 19, 1879), details are given of three cases—one of artificial anus and two of fæcal fistula, in which, as cure could not be effected through the usual means, the portion of intestine involved in the disease was removed, and enteroraphy performed. This report is of much interest as a contribution to the statistics of an operation to which much attention has recently been directed by German surgeons, and also as describing certain modifications in the operative method, and in the after-treatment, applied by the author in dealing with his three cases. The operative treatment in each case was carried out with strict attention to antiseptic precautions. In two of these cases complete cure was promptly attained. In the third case a favourable progress towards recovery was suddenly arrested through pulmonary embolism.

The subject of the first case was a very feeble woman, aged forty-three, who, three weeks before she came under the notice of Professor Schede, had suffered from strangulation of a femoral hernia on the left side. An operation performed for the relief of this condition had exposed a coil of gangrenous intestine, and resulted in the establishing of an artificial anus. In the left inguinal region was an opening into which the little finger could be passed, and from which there was a constant discharge of fluid fæces. No fæcal matter was discharged by the anus. There was a free opening into the portion of intestine above the opening in the groin, but neither the finger, nor even a probe, could be passed into the lower segment. After the patient had for two days been subjected to a preliminary treatment, consisting in evacuation of the portion of bowel above the false anus, in exclusive feeding by clysters, and in frequent administration of opium, the following operation was performed:—A vertical incision was first made through the abdominal wall, commencing just above the upper margin of the false anus and carried upwards for a distance of about three inches. The portion of intestine above the opening was then exposed, drawn outwards through the wound, and enclosed temporarily in a stout catgut ligature in order to prevent any flow of intestinal contents during the subsequent steps of the operation. The short piece of intestinal canal between this ligature and the artificial anus having been washed with a 5 per cent. solution of carbolic acid, the upper margin of the outer orifice was cut through and the adhesions of the upper segment of gut were carefully divided. The contracted extremity of the lower segment of gut was then dissected out of a bed of cicatricial tissue and also secured by a ligature of catgut. A wedge-shaped portion of mesentery, corresponding to the interspace between the portions of gut, having been excised, the edges of this membrane were first brought together and fixed by sutures, and afterwards the margins of the two portions of intestinal canal. The catgut ligatures were now removed. These had served their purpose so well that not a drop of fæcal fluid had been observed during the operation. Fearing that there might result a failure

of uninterrupted primary union between the two applied portions of intestine, and, in order to prevent any discharge of intestinal fluid into the abdominal cavity and consequent fatal peritonitis, Prof. Schede did not at once return the sutured portion of the intestinal canal. The upper and lower portions of the external wound having been closed by sutures, this portion of gut was retained without the middle portion of the wound, and prevented from slipping inwards by a large bent needle passed through the mesentery and the opposite margins of abdominal wall. This exposed portion of gut and the whole seat of the operation were then covered by Lister's dressing. No indications of febrile reaction were manifested during the subsequent progress of this case. The patient vomited soon after the operation, but only once. The dressing was changed on the second day, and again on the sixth day. On the fifth day there was a free discharge of fluid fæces by the anus. Subsequently, defæcation was regular and normal. On the tenth day the bent needle was removed, and the exposed coil of intestine, then covered by healthy granulations, allowed to fall back into the abdominal cavity. At the end of the fifth week the patient was discharged as cured.

In the second case, a woman aged sixty-two presented a very large irreducible umbilical hernia of ten years' standing. The skin stretched over this swelling was very thin and smooth, and at the most prominent part was a large ulcer, which, at its middle, led down to intestine. Near this ulcer were two small fistulæ, through which almost the whole of the fæcal matter was discharged, but a very small portion being passed by the anus. As spontaneous cure was not to be expected in this case, Prof. Schede decided on operative treatment. After incision of the thin and tense skin over the hernia, and exposure and careful separation by dissection of the portions of intestine below the ulcer, two provisional catgut ligatures were applied, as in the former case, and about four inches of intestinal canal cut away, together with a wedge-shaped piece of mesentery. The two portions of intestine were then brought together and united by sutures. A large portion of prolapsed omentum, having been tied in three portions, was next removed. The sutured portion was, as in the first case, retained without the abdominal wound by means of a large bent needle. The patient suffered severely from vomiting on the day of operation, and afterwards progressed favourably until the fourth day, when she died suddenly from embolism of the pulmonary artery. At the *post mortem* examination the edges of the applied portions of intestine were found to have completely and firmly united. The peritoneum was quite free from traces of peritonitis.

The third case was one of artificial anus in a woman aged fifty-eight. This had resulted from strangulation of a hernia through the linea alba, a little below the navel. It was thought very probable that a portion of jejunum was the part affected, since solid food passed from the artificial anus within one hour after deglutition, and fluids within twenty minutes, the discharged matter being mixed with much unaltered bile. The strength of the patient had been supported by the injection of peptones into the peripheral portion of intestine. A large portion of the fæces was discharged at the anus. After unsuccessful trials of all usual means of relief, it was decided to perform enteroraphy. The fistulous opening, which was situated a little below and to the right side of the navel, was included between two curved incisions through the abdominal wall. The knife was then

carried upwards and downwards in a vertical direction, so as to enlarge the wound and expose the extremities of the upper and lower segments of intestine. The two portions of intestine were then brought together and united by sutures, as in the first and second cases, but, in consequence of close adhesion of each extremity to the surrounding parts, it was found impossible to draw the sutured coil outwards through the wound. The edges of the incision in the abdominal wall were then brought together and fixed by sutures. This patient made a speedy recovery, and, during the subsequent progress of the case, the temperature remained normal. There was normal defecation by the anus on the fourth day.

The author points out the advantage of temporary deligation of the intestine in the operation of enterography. The proceeding he holds is quite free from danger, and undoubtedly assists the operator and prevents effusion of intestinal contents into the peritoneal cavity and over the raw surfaces. It remains doubtful, he acknowledges, whether any advantage attends the practice of retaining for a time outside the abdomen the sutured portion of intestinal canal. The applied edges of intestine speedily unite by primary adhesion, and effusion of fecal fluid may be prevented through the apposition of other peritoneal surfaces. That the plan is not a dangerous one is proved by the good results in the first case.

W. JOHNSON SMITH.

OSTEOMYELITIS DURING GROWTH.

IN the *Revue Médicale de l'Est* for April 15, 1879, p. 226, there is a somewhat interesting discussion on a work of M. Lannelongue on *Osteomyelitis during the period of Growth*, which shows, at any rate, how far the French pathologists are from uniformity of opinion on the subject. "In the opinion of some," as the reporter, M. Heydenreich, says, "the affection always begins with the periosteum and from thence invades the other parts of the bone; others think that the medulla is always first attacked; whilst there are, finally, eclectic authors who think that the affection may begin with one or the other of these elements". The author of the work in question, M. Lannelongue, believes that the disease always begins in the medulla, and, therefore, proposes the trephining of the bone as the only means of stopping its course; whilst M. Gosselin denies this proposition, and says that, in many cases, even when the superficial layers of the bone are attacked, the central parts are unaffected. He prefers, therefore, the term "osteitis", whilst he nevertheless admits the advisability of trephining as being always innocuous. So that he would trephine the bone as an exploratory measure, and if the medullary cavity is found infiltrated with pus, then enlarge the opening. In some apparent opposition to this teaching, M. Gosselin says that the suppuration in the medullary portion of the bone is a consequence of the superficial suppuration, and takes place chiefly in cases where the free incision necessary to evacuate the matter thus situated has been neglected. M. A. Guérin supports the latter view of the case, and dwells still more strongly on the necessity of freely incising the periosteum, and even prolonging the incision into the spongy tissue of the bone, which, in these cases, is generally softened. M. Lannelongue's view was supported on anatomical grounds by M. Panas, who describes medullary tissue as existing, not only in the central canal of the bone

and its neighbourhood, but also in the deeper layer of the periosteum and in the Haversian canals. In accordance with this alleged anatomical fact, M. Trélat points out that the affection in question is most common at the time that the medulla is in greatest abundance, and is most perceptible in the situations where it is in greatest quantity. M. Gosselin, however, denies the anatomical fact, asserting the absence of medulla in the Haversian canals and under the periosteum. The embryonic cells (osteoblasts) have, as he asserts, no histological connection with the medulla of the central canal. Such embryonic cells may, indeed, be found in abundance in inflammatory affections, but they should not be confounded with medulla, or with any proliferation or modification of medulla. And the clinical aspect of the case shows the same thing, according to him: there are in ordinary cases two periods—one of acute fever, in which there are no reasons for thinking that the central parts of the bone are affected; and the second period, that of suppuration, in which also the pus is in almost all cases confined to the periosteal and superficial parts of the bone; though there are instances in which the medullary canal is found affected at this period of the disease.

As far as our own experience goes, we think M. Gosselin's pathological and clinical description extremely accurate. As to pathological anatomy, we have had frequent opportunities of proving by dissection that the ordinary acute periostitis of early life does not as a rule affect the central parts of the bone at all, and, in such cases, we cannot support the proposal to trephine the bone (if at least it is proposed to do this at an early stage of the disease), or regard the operation as being in the least degree innocuous. At a later period, when the bone is dead, it would no doubt be safe to trephine it, but it would also be useless. In small bones which have no distinct medullary canal, it is possible that a trephine might give adequate exit to matter; but, in most of such cases, the total removal of the bone or of the part would probably be the more feasible and the more rational step. To trephine a long bone, such as the tibia or femur in an early stage of acute periostitis (as we generally style the disease) would only complicate the case, and, as it would seem, render inflammation of the central parts more probable. In fact, in the experience of the present writer, it is only a very small proportion of cases of acute periostitis in which the medullary membrane or medullary canal are implicated, and, when this is the case, the central inflammation is too diffused to be relieved by anything short of extirpation.

We need not say, then, that we differ materially from the opinion expressed by M. Heydenreich in the following words: "We cannot but be struck by this pathological fact that the periosteum, bone, and medulla, present a kind of solidarity when attacked by the same causes of disease, and are generally simultaneously affected, though in different degrees." True as we hold this to be of the periosteum, and the bone which lies directly beneath it and derives its nutrition exclusively from it, it does not seem to us either true or probable with respect to the medulla, which has quite different anatomical and physiological relations. In fact, we have often been struck in examining cases where acute periostitis has run its fatal course rapidly to see how perfectly unaffected have been the central portions of the bone and the medullary canal. Examined later on, these parts will have perhaps perished along with all the

rest of the shaft of the bone; but this is obviously only a secondary or incidental result of a disease which at first was quite confined to the superficial facts. The point is a very important one when a proposal to trephine the bone is under discussion.

Acute osteomyelitis, as far as we have been able to observe, is a different affection, caused almost always by penetrating wounds, not amenable to treatment by external incision, as acute periostitis very often is, nor in fact to any known treatment short of complete removal.

T. HOLMES.

GIUNTOLI ON ACUTE RHEUMATISM IN INFANTS.

THIS affection, strange to say, was entirely unknown to the ancients. It is never mentioned by them in any of their writings (*Lo Sperimentale*, Nos. 11 and 12, 1878, and *Med. Chir. Rundschau*, No. 3, March 1879). In 1837, Berton, speaking of it, says that it is a comparatively rare occurrence; but since his time many authors have given a great deal of attention to the subject. Although it may be said that no age is safe from this affection, still it is seldom met with before puberty, and only in very exceptional cases before the age of five. In England, however, it seems to occur more frequently than in other countries, probably owing to the dampness of the climate.

Chomel says that he only met with two cases in infants and seventy-two in adults. Roger is more fortunate in this respect, as he sees on the average twelve cases in infants in a year. The progress of the disease on the whole is about the same as in adults, except that neither the fever pains nor sweating attain the same height; the subacute form is the one most frequently here met with. The disease does not always manifest itself at first by pains in the joints; in a great many cases the prodromi consist in pains in the muscles, a general feeling of prostration, and headache, or a slight angina; this state sometimes lasts for a week or more. The temperature seldom rises beyond 100.4, except in cases of severe complications. The patients suffer a good deal from gastric and intestinal troubles, and from profuse epistaxis; sudamina never appear. Notwithstanding the tendency to delirium peculiar to children, they are seldom delirious except in cases of cerebral-rheumatism. The pains are generally restricted to the joints of the lower extremities, and seldom spread to the hands; in very few cases are they sufficiently severe to prevent sleep. The skin is never discoloured, even if there should be considerable swelling; the number of joints affected varies very much, but the affection very rarely confines itself to only one joint. According to the majority of authors on this subject, the affection seldom lasts longer than 8 to 15 days, which is shorter by a week than in adults; during convalescence the patients are generally very anæmic, and suffer from excessive prostration.

A simple articular rheumatism very seldom ends fatally, except if new complications should arise, but the child, even if once cured is never safe from new and repeated attacks; it might indeed be said that they are quite the rule. In most cases the heart is also affected, and either remains diseased, or a rheumatic diathesis is gradually developed, which later on manifests itself in a new form with choreiform movements. In some cases even suppuration has been known to occur. Affection of the heart and

pleura in rheumatism must never be regarded as a complication, but merely as a spreading of the disease to other serous membranes; the nervous system is also much exposed to rheumatic attacks, evidenced by the frequent cases of chorea and cerebro-spinal meningitis, affections designated by Giuntoli under the felicitous name of visceral rheumatism. That the heart should remain free is quite an exception, as in three-fourths of all the cases where the heart is not affected from the very first, it is sure to suffer later on.

Another phenomenon which has been observed more frequently in infants than in adults, is that the cardiac affection precedes the articular affection. According to Roger, endocarditis is the most common complication, endo-pericarditis is not quite so frequently met with, and pericarditis still less so. The former is not always recognised in its first stages, as the symptoms under which it generally manifests itself are a slight fever, pains in the region of the heart, and occasionally very severe dyspnoea. Often the only symptom betokening the affection of the cardiac valves, consists in a slight blowing murmur, which is strongest at the apex of the heart, and accompanies the ventricular systole. The prolonged existence of the cardiac bruits is one of the surest diagnostic symptoms by which the organic bruit may be distinguished from the anæmic murmur which so frequently occurs in rheumatism; the former is also always restricted to the base, and does not extend in the direction of the large vessels. As a cardiac complication is not always accompanied by fever, and might therefore easily be overlooked, it is of great importance never to omit making a thorough examination of the heart. Whether ulcerous endocarditis ever occurs in rheumatism has not yet been sufficiently proved. Slight affections of the endocardium often pass away entirely after several months, without leaving any traces (Trousseau); in other cases some pathognomonic symptom appears much later; but frequently the heart struggles painfully for years against the obstacles which exist near the valves. Palpitations and troubles in breathing appear next, and sooner or later, spontaneously or by means of some intercurrent affection or a relapse of rheumatism, the circulation is more and more disturbed, dropsy and other organic diseases appear and multiply, and the patient succumbs often many years after the appearance of primary endocarditis to cardiac cachexia. Bouillaud mentions the case of a woman, aged twenty-nine, in whom the existing cardiac disease was evidently due to an acute attack of rheumatism, which had occurred in her tenth year. Quersant and Bamberger mention other cases which ended fatally after a much shorter duration. Pleuritis has been considered by all authors as a frequent complication of rheumatism. Roger even asserts that he has met with it more often in infants than in adults. Bilateral pleuritis complicated with cardiac affection is considered very dangerous; there is nothing characteristic in its course, as it is often latent and not accompanied by pain. Rheumatic pneumonia is, according to Grisolle, a very rare disease, which he has only observed once in a girl aged seventeen. Fuller says that this complication is more frequently met with, and he accordingly mentions two cases of girls, aged respectively twelve and fourteen; they both ended fatally. Claisse had a boy, aged eight years, under his treatment, who was suffering from a complication of acute rheumatism with endocarditis and bronchopneumonia; a few days later a second complication arose, in the shape

of bilateral pleuritis and pericarditis; but notwithstanding this series of complications, the patient recovered after eighteen days. The nervous system is very frequently the seat of rheumatic manifestations. Cerebral and spinal affections have been observed in children as often as in adults, but the most frequent form under which they manifest themselves is chorea, which is a characteristic symptom of the latter affection in infancy.

Cerebral rheumatism, which Bouchut has never observed, has been met with in children in all the forms which are peculiar to adults. The author reckons among these the delirium, which he does not consider as a reflex, but as a diathetic symptom. He also mentions a case in which, two days after the first manifestation of articular pains, opisthotonos and grave cerebral symptoms set in, and death ensued on the fourth day. As a rule, however, this affection always seems to accompany other complications. Chorea St. Viti has been very frequently met with in rheumatism. Roger regards it as a necessary concomitant of cerebral rheumatism. Trousseau records several cases where cerebral rheumatism and chorea apparently mutually compensated. That both affections should be so frequently combined is a phenomenon peculiar to infancy. A more or less considerable intellectual disturbance has often been also noticed in the course of rheumatism; it varies considerably in duration, and is generally combined with chorea (Griesinger's prolonged form of encephalopatia rheumatica and Mesneti's folie rheumatique). The apoplectic form of cerebral rheumatism is as rare an occurrence as the foregoing one. According to Roger, the prognosis of cerebral rheumatism in children is less unfavourable than in adults, and may even be said to be favourable if chorea or delirium are the only complications which arise. In 1850, Professor Sée was the first to point out the frequent coincidence of chorea with articular rheumatism; to-day no one doubts that they are connected. Trousseau mentions seventy-one cases in which chorea occurred, either together with articular rheumatism or cardiac affections, or alternating with them; he regards both the latter as expressions of the rheumatic principle. In most cases chorea complicates only a more advanced and less severe stage of rheumatism; it appears less frequently in the acme or at the beginning of the disease, and has only been known in very few cases to precede the affection, as noticed by Sée in five cases out of forty-two. At other times it appears only at the second or third attack, and often alternates with the latter.

It is principally the slight and subacute form of rheumatism which is complicated with muscular disturbances, and as if both affections intended to balance each other, the chorea is very slight in grave cases of rheumatism or cardiac affection, while a simple torticollis is often followed by a most serious attack of St. Vitus's dance. Patients, suffering from a complication of rheumatism with chorea, generally present some cardiac disease, either endocarditis or endopericarditis. While Roger looks upon chorea cardiaca and chorea rheumatico-cardiaca as manifestations of a rheumatic diathesis, Giuntoli is of opinion that chorea ought not to be considered as a complication of rheumatism in cases of pale cachectic children, where the cardiac bruits are not restricted merely to the apex of the heart, but extend over the base and the large vessels. He quotes the history of a child of ten, who had chorea and cardiac bruits, although no articular

pains had been observed. Two weeks later acute articular rheumatism broke out, which later on was complicated with endocarditis and a relapse of chorea.

The reason why all cases of rheumatism are not complicated with chorea has been ascribed to a disposition which is peculiar to infancy, and especially to girls. It seldom appears in children under eight years, and relapses frequently occur till the twentieth year. A sudden fright is often said to be the cause of it; and, as we have said before, the prognosis is generally a favourable one.

The connection between chorea and rheumatism is not only peculiar to infancy, but can often be traced in hereditary dispositions. Patients suffering from chorea frequently are the descendants of people who have suffered from rheumatism. Sée was able in eight cases to verify this phenomenon in the same family, and Trousseau often predicted chorea in cases of rheumatism. Thus chorea appears as a manifestation of a rheumatic affection of the nerve centres. Fifty years ago Copland opposed the theory that these convulsions were of a reflex character, saying that rheumatism had a tendency to spread from the articular regions to internal fibrous membranes, the pericardium and the pia mater of the spinal chord. Both the pathological anatomy of the disease, as well as the symptoms observed *intra vitam*, tend to affirm the assertion that both affections are connected. So far as the anatomy is concerned, it must be admitted that the *post mortem* results have not always been the same, but in every case the chord or its membranes have been the seat of the manifestation. Both chorea and rheumatism, whether they both occur together or separately, always produce the same phenomena; from our present point of knowledge we must still, however, maintain that rheumatism has a strong tendency to attack the nervous system, especially the spinal system, and to produce muscular spasms in individuals who are so predisposed. Still, although a rheumatic chorea exists, and cannot be denied without deliberately refusing to recognise positive facts, yet it would be just as unreasonable and hasty to assert that chorea is merely of rheumatic origin.

So far as other nervous phenomena occurring in the course of rheumatism are concerned, it is still doubtful whether it is in any way connected with contractions or tetanic rigor of the extremities, as the latter are generally met with during the first years of life only, when muscular rheumatism is almost unknown; neither has it as yet been positively proved that it is in way connected with essential infantile paralysis. Rheumatic, as well as other neuralgias, are very rarely met with in children.

The author never observed a case of erythema nodosum and papulosum, and he even doubts the existence of a purpura rheumatica.

Muscular rheumatism is of rare occurrence in infancy, and Giuntoli has never observed it apart from affection of the joints, so that it should be regarded as a symptom of rheumatism, especially as it often appears in connection with chorea and cardiac affections. The etiology of rheumatism in infants is the same as in adults; perhaps the hereditary predisposition is more pronounced too; e.g., Taccoud says that acquired rheumatism, which is much more frequent than the inherited, generally appears at a more advanced period of life, generally between the twentieth and fortieth year. Chomel even goes so far as to consider rheumatism in

children merely as an exceptional phenomenon due to hereditary predisposition. Concerning the question as to whether there is a more marked tendency to this affection in males than in females, or *vice versa*, the various authors differ much in their opinions. Vogel has even discovered a special relation between the age of the patient and the seat of the disease, which he defines as follows: in children the upper extremities, and the organs of the head and thorax are always affected by rheumatism, and the lower extremities and abdominal viscera in adults. This is partly true, as far as the viscera are concerned.

One of the most frequent causes of rheumatism is cold, and principally damp cold; the opinion has for a long time prevailed that scarlatina often produces it also; but as both affections are peculiar to infancy, it has not yet been proved beyond doubt that there really exists some internal connection between them. In the course of scarlatina, the joints often become very painful; this symptom lasts sometimes for one or two days, and then disappears without leaving any traces, while at other times the articulations become inflamed and suppuration ensues. Purulent pleuritis and pericarditis often occur in scarlet fever, but cardiac affections belong to the rarer complications. *Endocarditis scarlatinosa* has never been known to end fatally. Trousseau admits the existence of a scarlatinous rheumatism, and points out that scarlatina is often followed by chorea; and Hughes, Ogle, Fuller, Long, and Roger record similar cases. It seems as if scarlatina had the power to rouse the latent tendency to rheumatism in individuals who are under the influence of a hereditary predisposition, without however giving to the latter a peculiar *cachet*. The complications of scarlatina have a tendency to suppuration, and that may be the reason why the complications of rheumatism which arise in the van of scarlet fever take the same turn. The relation which exists between both affections is however still an open question, which further investigations will doubtless solve. The diagnosis of rheumatism is easy, but unfortunately slight pains in the joints are too often regarded as growing pains, and too little attention is given to the heart in such cases. Acute attacks of rachitis are apt to produce symptoms not at all unlike those caused by rheumatism; but the extreme youth of the patient, together with the characteristic deformity which soon follows, prevent the error in the diagnosis. Diffuse phlegmonous periostitis often first appears in infancy in the form of rheumatism, as either one or several joints become exceedingly painful; but in this case also the fact that the swelling is either above or below the joint, and never on the joint itself, the general state of the patient and the formation of large purulent foci, help to make the differential diagnosis. Roger draws the attention to the fact that vertebral rheumatism might easily be mistaken for spinal meningitis, seeing that in both affections the patient presents the characteristic position of lying in bed with his head thrown backwards, and his back arched and stiff. He, however, points out that the age of the patient will prevent the mistake in children under three years of age, as rheumatism very seldom occurs before this epoch; and that at a more advanced age, affections of the central nervous system and its membranes would easily be detected by troubles of the motility and sensibility. In no case of chorea must the repeated auscultation of the heart be neglected.

The author strongly advocates the use of opium

in rheumatism, in doses of three to five centigrammes every three to four hours, or Dover's powders in doses of from two to six decigrammes. In cases where opium should fail, chloral hydrate and bromate of potassium must be given, and the patient during convalescence be kept under a stimulating and strengthening treatment. It is remarkable that Giuntoli should have entirely overlooked the powerful remedy for rheumatism which we possess, in the shape of salicylic acid, and we are entirely at a loss as to what special reason of the author this neglect should be attributed. Its efficiency is entirely beyond all doubt, and the drug might at least have been mentioned among the others. Cardiac complications are treated by painting the cardiac region with iodine, and applying blisters; bleeding or leeches are only indicated in cases of much pain and dyspnoea. Cerebral symptoms must be energetically treated, by applying leeches to the mastoid processes, and giving large doses of opium and chloral, as well as purgatives internally; but, notwithstanding all efforts, the complication is apt to end fatally. Children who have once suffered from rheumatism must be very carefully protected by prophylactic means from relapses. Cold water cures, mountain air, sea bathing, etc., will prove beneficial in strengthening their constitutions and preventing repeated attacks of the affection.

SCHEDE, BÖTERS, RISME, STAHL, AND WILDT ON SURGERY.

DURING the two years from October 1875 to October 1877 (Communications from the Surgical Department of the Berl. Städtischen Krankenhaus im Friedrichshain, *Centralbl.*, No. 18, May 3, 1879), twenty-eight compound fractures were under treatment; they are distributed as follows:—Two fractures of the upper arm, seven of the forearm, two of the thigh, and seventeen of the leg. Of these, twenty-one were treated antiseptically during the first twenty-four hours following the accident, the remaining seven only having been brought to the hospital in the course of the second day, or even later. The twenty-one cases which belong to the former group, were all cured; in two cases amputation had to be performed, as traumatic gangrene of the respective limbs had set in. Out of the remaining seven, who all had entered the hospital with high fever and with their wounds presenting a very bad appearance, two died, one from tetanus, another from septicæmia, and in one case amputation was performed. In four cases, three of which were cases of compound fractures, and one a case of resection of the hip, hospital gangrene set in, and, with one exception, where the wound presented during one day slight symptoms of decomposition, all the other gangrenous wounds remained aseptic, a circumstance which is strongly in favour of the specific nature of the virus of hospital gangrene. One of these cases ended fatally, death, however, not being owing to the gangrene, but to complication with erysipelas. The treatment consisted in all the fresh cases in applying Lister's occlusive dressing; in older cases, where infection had already taken place, antiseptic irrigation or antiseptic fomentations were used. Plaster-of-Paris bandages were only used where it was found impossible to maintain the fragments in the right position in any other way. (Wildt).

Böters treats hæmorrhages following miscarriages by scraping the residue of the ovum out of the womb with the spoon, and draining the uterus, without having previously dilated the cervical canal or chloroformed the patient. He considers this treatment as perfectly safe, even in cases of parametritis. He also strongly advocates the use of adhesive plaster in the treatment of cicatricial contractions of the upper extremities. In one case, where extensive burns on the interior surface of both arms had caused the formation of abscesses and a contraction of both elbow-joints, extension by means of adhesive plaster was tried after all other remedies had proved unsuccessful. After this treatment had been continued for a fortnight, both elbows were straightened, and the healthy skin had been dragged down from the upper arm and the shoulder to such an extent that the cicatrices, which formerly were situated about the middle of the forearm, had now moved upwards to about an inch below the elbow-joint. The joint could be freely moved, and the abscesses healed comparatively soon. It must be observed, that this favourable effect of extension by means of adhesive plaster, is diametrically opposed to the effect produced by forced extension and splints, as the latter only stretch the cicatricial tissue, while the former drags down the healthy skin.

Schede and Stahl have contributed an article on primary infectious periostitis and osteomyelitis. In the space of thirty months, twenty cases of acute infectious osteomyelitis in the first acute stage of the affection came under treatment. To these, two more cases from private practice are added, and two cases of central abscesses of the diaphysis of the humerus, their histories being given. The cases have been divided into the following classes:—

1. Acute osteomyelitis of the diaphyses; twelve cases.
2. Acute osteomyelitis of epiphyses; five cases.
3. Acute osteomyelitis of spongy bones; two cases.
4. Abscesses of the bone in the diaphysis of the humerus; one case.
5. Recurrent osteomyelitis; four cases.

These twenty-four cases have been carefully analysed. Concerning the occurrence of the affection, it is met with primarily in the majority of the cases in individuals in whom the bones have not yet attained their full growth. It has, however, been observed occasionally in older individuals; where it occurs very frequently, it assumes the recurrent type. In comparing all the cases which have hitherto been recorded in the literature of this subject, we find that in the majority of them the thigh is affected, the tibia nearly as often, and that one or other of these bones is affected more frequently than all the other parts of the skeleton put together. There are but few cases on record of osteomyelitis of spongy bones, such as the os calcis, the scapula, and the pelvic bones. In two cases where the latter were affected, the disease spread rapidly to the hip-joint, which suppurated without any external symptoms. Volkmann considers this to be the rule in traumatic suppurations of the hip-joint. The danger of the affection decreases with the size of the bone; and no case of death has as yet been observed in cases of osteomyelitis of the smallest bones. It seems as if circumscribed osteomyelitis of the epiphyses is perhaps less dangerous than the same affection when it occurs in the diaphysis. Concerning the geographical distribution of this disease, its favourite habi-

tat seems now to be Berlin and Halle, where it used to be comparatively rare, and also Berne.

So far as regards the etiology and nature of the affection, Schede and Stahl agree fully with those authors who look upon osteomyelitis as an infectious disease; traumatic lesions, over-exertion, etc., are merely secondary causes, which may quicken the outbreak of the disease or exercise a deleterious influence upon its seat, but cannot produce it. This view is supported by the fact that at certain times osteomyelitis has been observed to assume the character of an epidemic, that the fever-curve bears a close resemblance to the curve of typhoid fever, and the frequent complications arising from secondary inflammations. Cases of multiple osteomyelitis, however, are not to be regarded as such, but merely as the expression of the general infection. Micrococci could not, in all cases, be discovered in fresh pus, but acute leucæmia seems to complicate all severe cases; in one of them the proportion of the white blood-corpuscles to the red was that of 1.2. Typhoid fever and acute articular rheumatism are the only affections which could be mistaken for osteomyelitis, especially the latter, as probably both diseases are closely allied, but the extreme painfulness in the affected limb and its tenderness to pressure would, in most cases, prevent its being mistaken for typhoid fever.

The authors have found their method of treatment very successful. It consisted in opening the osteomyelitic abscess at an early period, and under antiseptic precautions. Perhaps early trephining of the diseased bone would give the same results; but as yet there have not been made enough experiments on the subject. It is hardly advisable to extirpate the bones in the first stage of osteomyelitis, but if resorted to at a later period it might perhaps prevent amputation of the limb. Antiseptic incisions prevent the formation of extensive necrosis of the limb, but it has not yet been sufficiently proved whether it will be possible to entirely prevent necrosis by operating at a very early period of the disease.

LEUBE ON SPONTANEOUS SEPTICÆMIA.

THE author publishes in the *Deut. Arch. f. Klin. Med.*, xxii, p. 235, a series of five cases of spontaneous septicæmia which have come under his own observation, and which are valuable on account of the very exhaustive description of the symptoms observed.

CASE I.—A woman aged 48 had in October 1876 erysipelas of the leg, but soon recovered. Four weeks later, she was suddenly taken ill with rigors, diarrhœa, and vomiting; the next day she was unconscious, delirious; there was a slight paresis of the left facial nerve; the spleen was swollen, a dulness could distinctly be traced in the left lower parts of the thorax, together with crepitation; the urine contained albumen and broad cylinders; the temperature was high, 41.4°, and the pulse 130. The patient complained of itching over the whole of her body. Death ensued two days later.—*Necropsy.* A large number of pyæmic, partly miliary foci, were found in both lungs and the kidneys; there were also fresh myocarditic foci in the left ventricle, and a recent swelling of the spleen.

CASE II.—Pyæmia, following closely upon childbirth; considerable thrombosis of the venæ iliacæ and cava ascendens; increase of the white blood-corpuscles; characteristic curve of temperature, with

rigors; an eruption over the left gluteal region in the shape of small vesicles on a punctiform hæmorrhagic ground; dulness, crepitation, and bronchial breathing could be detected over the lungs; a friction-sound was heard both over the pleura and the pericardium; occasional albuminuria.—*Necropsy.* A fresh infarctus was found in the liver, and another one of older date in the spleen. There was a diffuse swelling of the kidneys, pyæmic foci in the lungs, and small growths on the bicuspid valve.

CASE III.—A lad aged 19 suddenly became unconscious. There was a slight excoriation on the nose, and herpes of the left hand; the urine contained much albumen and numerous cylinders; both epididymides were enlarged, and felt hard and nodulous; the optic nerves and the veins of the retina were hyperæmic; there were extravasations in both retinae; the temperature rose to 40.1°. Later on, Cheyne-Stokes's respiration set in, and the patient died in three days.—*Necropsy.* Ambilateral cheesy epididymitis; a softened thrombus in the left epididymis; miliary metastatic bacteritic foci in both kidneys, and cheesy degeneration of the apex of one of the pyramids; metastatic miliary foci in the myocardium; bacteritic growths on the bicuspid valve; metastatic miliary foci in the mucous membrane of the pharynx and larynx, the large intestine, the conjunctiva palpebrarum, and the membranes of the brain; diphtheritic inflammation of the inner coat of the ileum; tumour of the spleen.

CASE IV.—A lad aged 16 fell on his sacrum; he complained soon after of pain in his left leg, was feverish, had rigors, and high temperature, was thirsty, comatose, the body and extremities were covered with an eruption resembling violæ hæmorrhagica, the white globules in the blood were slightly increased; he had polyarthritis. Later on, friction-sound could be detected both over the pericardium and pleura. He died six days after his fall.—*Necropsy.* Multiple pyæmic foci of the lungs (pleuritis sicca), the myocardium, the liver, kidneys, and inner coat of the small intestine; hæmorrhage in the spinal cord; hyperæmia of the dura mater of the spine; a few punctiform hæmorrhages in the brain; suppurative of the elbow- and knee-joints; circumscribed periostitis of the neck of the left femur.

CASE V.—A servant girl aged 17 was suddenly taken ill with rigor, subsequent fever, profuse perspiration, and pains in the right shoulder-joint. The latter was tender to pressure. A systolic murmur could be detected over the heart; the temperature was high. A few days later, she became comatose, some of the muscles of the eye were paralysed, a bloody extravasation was seen first in the left retina, later on in the right; the dulness of the heart was enlarged. Death ensued a week after she had first felt ill.—*Necropsy.* The spleen was slightly enlarged; diffuse suppurative meningitis; pleuritis on the left side of the thorax; bacteric endocarditis of the central valve.

The author points out that spontaneous septicæmia may easily be mistaken for uræmia, meningitis, or miliary tuberculosis, although neither of the latter affections entirely resemble it in every respect. Characteristic symptoms are the rigors and high temperature, which set in suddenly without any prodromi, as well as the profound alteration of the nervous centres. The eruptions on the skin are also very important diagnostically, especially as they occur constantly, which is not the case with the hæmorrhages in the retina.

CONSTANTIN PAUL ON THE SEAT OF THE SO-CALLED ANÆMIC BRUIT OF THE CARDIAC BASE.

It has been the author's intention to prove that the seat of the anæmic or spasmodic bruit which is heard at the cardiac base is in the pulmonary artery. He has always preferred the use of the flexible to the rigid stethoscope. He reminds his readers that this bruit is a systolic one, and always to be heard on the left side of the sternum, and almost in every case in the left intercostal space near the sternum on the spot corresponding to the course of the pulmonary artery. The bruit may be soft or hard, and harsh; in the latter case, it is accompanied by a purring thrill and a loud second bruit, which corresponds with the tension of the sigmoid valves. He quotes ten cases in which he has observed this peculiar type, and points out that in every one of these cases a blowing sound could be detected in the jugular veins. In other patients we meet with a second type of the anæmic bruit. Here it extends beyond the second intercostal space, and can be detected in the three first intercostal spaces on the left side of the thorax, though it is loudest in the second space. The author groups in a third class all the cases where the bruit, though still systolic and on the left side of the sternum, is heard lower down, either in the second and third intercostal space, or in the third, or, lastly, in the third and fourth spaces. In a fourth series of observations, the bruit, although still situated in the pulmonary artery, can be heard as far as the apex of the heart. The author sums up his observations as follows: anæmia may cause blowing bruits in three different organs; viz., the jugular veins, the pulmonary artery, and the left ventricle. The bruit in the jugular veins is well known; the bruit in the pulmonary artery occurs very frequently; while the bruit in the left ventricle is only met with in rare cases. The anæmic bruit is heard in the second intercostal space, and is loudest at a distance of about two centimètres from the left side of the bone. It is systolic, and if at all prolonged, extends over the slight pause between the first and second sounds. Whenever the patient sits down or makes a prolonged effort, this bruit decreases; whenever he is made to walk quickly, the bruit increases.

The bruit which is most frequently met with is, as we have mentioned above, the one in the jugular veins. The bruit in the pulmonary artery is always accompanied by the jugular bruit. In cases where the mitral valve is affected, we are sure to meet with two other bruits: one of which is in the pulmonary artery, and the other in the jugular veins. When the patient begins to recover, the bruit over the bicuspid valve is the first to disappear; then the pulmonary bruit; and, lastly, the bruit in the jugular veins.

The bruits of the pulmonary artery are caused by two agents: anæmia and a spasmodic contraction of the vessels.

In the second part of his pamphlet, M. Paul gives the differential diagnosis between the anæmic bruit and the organic murmurs of the heart. The existence of a bruit in the jugular veins and of a blowing murmur in the left intercostal space, leads to infer that the patient is anæmic, and that he does not suffer from any organic lesion of the cardiac basis, or acute endocarditis, or stricture of the aorta; because, in both latter cases, the bruit would pre-

dominate on the right side. However, the author admits that it is very difficult to form a correct diagnosis in cases where two distinct noises are heard one on each side of the sternum, or where there is, besides the bruit in the jugular veins, another single murmur on the right side of the sternum.

M. Paul is of the opinion that the transitory bruits which are heard at the apex of the heart in cases of acute articular rheumatism are not always produced by endocarditis of the mitral valve, but may be owing to anæmia. He even asserts that this is always the case when murmurs can also be detected in the jugular veins and at the cardiac base. He admits, however, that a third bruit, which is heard over the mitral valve, owing to endocarditis, may co-exist with the two latter; but in this case it would be a permanent one. In other cases, the systolic murmur of the pulmonary artery may not be owing to anæmia, but to an organic lesion of the vessels. Again, in this case, the jugular murmur and the general symptoms of anæmia would help towards establishing a differential diagnosis.

Aneurisms of the aorta may also produce a blowing murmur on the left side of the sternum; but this could not easily be mistaken for an anæmic bruit, as it generally coincides with the second sound, and, besides the vascular lesion, would always be recognised by the characteristic changes in the pulse.

The author concludes his paper by drawing a parallel between the extra-cardiac bruits and the anæmic murmur of the cardiac base, and shows that the latter is much more constant than the former, which vary very often, and are constantly modified by respiration.

MEDICINE.

RECENT PAPERS.

- ALBRECHT.—Five Cases of Malignant Pustules. (*St. Petersb. Med. Woch.*, Feb. 8, 1879.)
- AUFRECHT.—A Case of Co-ordinative Disturbance of the Muscles of Speech. (*Deut. Med. Woch.*, Feb. 22, 1879.)
- BOUILLY.—Diffuse Pelvic Cellulitis. (*Arch. Gén. de Méd.*, Feb. 1879.)
- BÜRKNER.—Catarrh of the Eustachian Tube complicated with Brain-Symptoms. (*Berl. Klin. Woch.*, Feb. 24, 1879.)
- CHARCOT.—On the Motor Cerebral Localisations. (*Rev. Mens. de Méd. et de Chir.*, Feb. 10, 1879, No. 2.)
- COLES.—Hepatic Abscesses. (*Richm. and Louisville Med. Journ.*, Feb. 1879.)
- CORNILLON.—Connection between Painful Dyspepsia and Biliary Lithiasis. (*Progr. Méd.*, March 1, 1879.)
- CUFFER.—Aortitis and Neuritis of the Cardiac Plexus. (*France Méd.*, Jan. 22, 1879, No. 7.)
- COCHRAN.—Yellow Fever. (*Richm. and Louisville Med. Journal*, Jan. 1879, No. 1, Vol. xxvii.)
- CARROLL.—Congenital Malformation of Tricuspid Valve. (*Med. Rec.*, Jan. 18, 1879, No. 3, Vol. xv.)
- DUNCAN.—Naso-pharyngeal Catarrh. (*New York Med. Record*, Jan. 25, 1879.)
- DAVIS.—Diphtheria. (*Richm. and Louisville Med. Journ.*, Feb. 1879.)
- DEMANGE.—Case of Primary Colloid Cancer of the Pleura. (*Revue Méd. de l'Est*, Feb. 1879.)
- DREYFUSS.—On Icterus. (*Gaz. Méd. de Strassbourg*, Feb. 1, No. 2, 1879.)
- FERNET.—On the Cerebro-Spinal Complications of Typhoid Fever. (*Arch. Général de Méd.*, March 1879.)

- FISCHL.—Acute Bulbar Paralysis. (*Prag. Med. Wochenschrift*, Jan. 1879, No. 4.)
- FIELD.—Inquiry into the cause of Diphtheria. (*Richm. and Louisville Med. Journal*, Jan. 1879.)
- FOTHERGILL.—The Premurmur Stage of Aortic Valvulitis. (*Edinb. Med. Journal*, Feb. 1879, No. 284.)
- FURST.—Death from Asphyxia caused by Worms in the Superior Resp. Tracts. (*Wien. Med. Woch.*, No. 5, Feb. 1, 1879.)
- GARCIN.—On Pyelo-Nephritis originating from the Bladder. (*Arch. Gén. de Méd.*, March 1879.)
- HOMOLLE.—On Intrathoracic Pressure in Exudations in the Pleura. (*Revue Mens. de Méd. et de Chir.*, Feb. 10, 1879, No. 2.)
- IMMERMANN.—On Prophylactic Treatment of Relapses of Typhoid Fever. (*Med. Chir. Centralblatt*, Feb. 7, 1879.)
- KOCH.—On Aphasia caused by Anæmia. (*Berl. Klin. Woch.*, Feb. 24, 1879.)
- LIDELL.—Case of Exophthalmic Goitre. (*Med. Rec.*, Feb. 8, 1879.)
- MOYES.—Abscess of the Lung. (*Glasgow Med. Journal*, Vol. xi, No. 2, Feb. 1879.)
- MORISON.—On Dextral Valvular Disease of the Heart. (*Edinb. Med. Journ.*, Feb. 1879, No. 284.)
- MUSSY.—On Pigmentation of the Face in Abdominal Tuberculosis. (*Revue Méd.*, Feb. 8, 1879, No. 6.)
- PUY LE BLANC.—Case of Syphilitic Epilepsy. (*France Médicale*, Feb. 5, 1879.)
- STILLER.—On Migrating Kidney. (*Wien. Med. Woch.*, No. 4, Jan. 1879, No. 5, Feb. 1.)
- SENATOR.—Diagnosis of Brain-Disease. (*Berl. Klin. Woch.*, Jan. 27, Feb. 3, 1879.)
- SEYDELER.—Diarrhoea Adiposa. (*Berl. Klin. Woch.*, Feb. 17, 1879.)

MACKAY ON A CASE OF HÆMORRHAGE IN ONE LOBE OF THE CEREBELLUM.—A strongly-built, apparently healthy coachman, aged 32, awoke at four o'clock one morning with a "splitting" headache (*British Medical Journal*, December 28, 1878); during the next five hours he was continually vomiting and retching; he was sensible, but complained of giddiness and of not being able to see well. Soon after this he got out of bed and tried to walk to the door; instead of doing so, however, he turned round two or three times from left to right and fell down. During the ensuing night his breathing became heavy, and next morning he was found to be unconscious. When seen by Dr. Mackey, at 5 p.m., he was in a state of apoplectic coma. Some flaccidity of the left side of the face was noticed; the left limbs seemed paralysed; the right arm was sometimes moved, and there was some twitching in the hand. The pupils were equal. The coma deepened, and the patient died two hours later, not having had any convulsion.

At the necropsy, a dark red clot of the size of a small hazel-nut was found in the left lobe of the cerebellum, about half an inch from its lower surface. The clot appeared more like a "pulp of brain and blood" than a recent apoplectic clot; it was traversed by capillaries. All around it, for at least half the lobe, the brain substance was pulpy. The right lobe was perfectly healthy. The heart was large and loaded with much external fat. The patient had led a steady life, and had enjoyed good health for at least eleven years, with only occasional headache and some "trouble with his heart".

[The above case appears to militate against the conclusions arrived at by Professor Nothnagel in a recent paper which was reported in the LONDON MEDICAL RECORD, June 1878. Two of these were as follow:—"A loss of substance in one hemi-

sphere of the cerebellum causes no symptom of Disease;" "Local lesions which in their action are limited to one cerebellar hemisphere cannot be diagnosed". The hemiplegia which was apparently present in the above case, can hardly be ascribed to pressure exerted by the small hæmorrhagic clot upon distant parts of the brain, but must be regarded as due to the local lesion in the cerebellar hemisphere. --Rep.]

C. S. W. COBBOLD, M.D.

JORDAN ON FATTY CHANGE (AND FAILURE) OF THE MUSCULAR WALL OF THE GUT, AS A DIRECT AND INDIRECT CAUSE OF INTESTINAL OBSTRUCTION AND DEATH.—Mr. Furneaux Jordan contributes, in the *British Medical Journal*, April 1879, p. 621, an interesting paper, with cases, upon this condition of the bowel. With, perhaps, no premonitory symptoms, continuous vomiting and tympanitis have set in, lasting a few days, and followed by death. As a rule, the disease has been observed in large fat persons, with signs of degenerative change in other organs. *Post mortem* examination disclosing great internal accumulation of fat, but curiously, no obvious or recognised cause of intestinal obstruction. In all the cases, the intestinal canal was greatly loaded with fat, presenting a strikingly yellow appearance; in some cases it seemed to be simply a tube of fat.

BATTAMS ON DIET IN ENURESIS OF CHILDREN.—Mr. J. Scott Battams calls attention, in the *British Medical Journal*, May 1879, p. 690, to the value of Dr. McIntyre's treatment in this troublesome affection; *vide Lancet*, May 1878, p. 665. After numerous failures with all orthodox modes of treatment, it was found that cutting off meat in the diet was sufficient in many cases to effect a rapid and permanent cure. [This plan does not find favour with Dr. Farquharson, in his paper read before the Harveian Society.—*Vide British Medical Journal*, December 1878, p. 957. --Rep.]

R. NEALE, M.D.

AUFRECHT ON A CASE OF CO-ORDINATIVE DISTURBANCE OF THE MUSCLES OF SPEECH.—(*Deut. Med. Woch.*, February 22, 1879.)

M. L., joiner's apprentice, had become overheated turning a grinding stone in a stooping position, when suddenly a stream of cold water was poured from a pipe above him over the back of his head and neck. Half an hour later he noticed that he could no longer speak. A few days later he came with his mother to consult the author. She stated that the lad had always been well, with the exception of measles and scarlet fever, which he had in his infancy, but that she herself had suffered from repeated attacks of melancholy, which lasted each time about five months. She had, however, been well for the last three years. The patient is 17 years old, well built and fairly nourished, no abnormal conditions can be detected in any of the vital organs; he swallows well, the tongue is protruded without any deviation to the right or left. When asked to speak, he makes the following remarkable efforts to utter a word. He opens his mouth wide, so that the lower lip protrudes over the lower dental arch, the tongue is thrust forth so that its tip touches the mucous membrane of the under lip, and squeezes between the latter and the dental arch of the lower jaw, assuming, at the same time, a more convex shape. Simultaneously, both the sternocleido-mastoid muscles contract and jerk the head forwards; both they and the whole of the dorsal surface of the tongue are very hard and rigid

to the touch in such moments. Not before all these movements have been accomplished simultaneously, the patient utters the required word. He tells his whole history in a clear and lucid way, but has to go through the same manœuvres at every word, or sometimes after two or three words. When asked to count if possible without stopping, he does not get beyond number six; but, between the numbers, the mouth is kept open, the sternocleido-mastoid muscles remain contracted during the whole of the time, and the head is thrust forward.

He was treated with bromide of potassium, and a blister applied to the neck; eight days later, he had so far improved as to be able to speak more coherently, and, though the above described symptoms still occurred after several words, the action of the muscles was less energetic than before. Four weeks later he was able to speak without the least apparent abnormality; but when asked to count without stopping to take breath, he would go on till eighteen, then stop to draw a long breath, and execute the same manœuvres with the head and tongue though only slightly. If, however, told to inspire frequently while counting, so that wind does not fail him, no disturbance ever occurs. A fortnight later he was dismissed from treatment as being quite well, and has remained so ever since.

Two similar cases have come under observation before; one is quoted by Panthel in *Deutsche Klinik*, 1855, p. 451; and the other by Fleury in the *Gaz. Hebdom.*, Nos. 15, 16, April 14, 20 1865. Panthel's case was a boy of 12 years who fell down in a swoon at his father's funeral, and, when restored to consciousness a quarter of an hour later, was unable to speak. All his other functions were perfectly normal. This state lasted three days, and, during the whole of the time, whenever the boy attempted to speak, the muscles of the pharynx, which are innervated by the hypoglossus, were in a state of continual vibration, which only lasted as long as the boy had the intention to speak. If the muscles were compressed externally, the spasm ceased, and the boy was able to speak as long as the compression lasted. A fortnight later, the same state recurred after a slight fright and lasted two days; also, a few weeks later, when it passed over after a few hours.

In Fleury's case, the patient was a man aged 33, who had had one tonsil extirpated. This operation was followed by serious disturbances of sensibility and the sense of taste, aphonia, congestion of the brain, and epileptiform fits; at the same time, he had lost the power of speech, whenever he attempted to speak, his tongue would curve upwards, pressing on the palate, and there remain immovable. There was no affection of the tongue or lips, as he could smoke, whistle, etc. Neither was his intellect affected in any way; he could read, write, etc., and communicate with his surroundings by means of a pencil and writing tablets. After fifteen months of antiphlogistic treatment he regained the power of speech, but he remained epileptic.

Reflections.—It is clear from the history of the case that the muscles of speech could not have been affected; the lesion, therefore, was confined to the nerves which innervate them, the hypoglossus and the accessories. The term lesion is too strong to be used here, as we cannot speak of an anatomical lesion as occurring either in the origin or the course of the nerve, because, if this were the case, the nerves would be incapable of working their respective muscles, and we see that here the functions of the latter were in no wise disturbed. It is difficult to

find a satisfactory explanation for this curious phenomenon. The author's theory is that, through some unknown agent, the roots of the hypoglossus and accessories, which exercised every effort to articulate the word ready in the brain, were so extensively excited that instead of inducing speech they impeded it, causing what might be termed ataxy of the speech.

FINN.—CURSORY OBSERVATIONS ON EXANTHEMATIC TYPHUS, PLEURITIC EXUDATIONS AND CROUPOUS PNEUMONIA.—The author has published the results of his observations, made during the last war, in the *Transactions of the Caucasian Medical Society*, No. 8, 1878. They relate to experiments made by him and others on the contagiousness of the afore-named diseases.

1. *Spotted Typhus.*—Both the author and another medical practitioner gave to themselves hypodermic injections of blood which had been taken from spotted typhus patients. They both remained well for two months after the operation, but, owing to the impossibility of keeping the air pure in the wards, they both caught the fever.

2. Blood, part of which was mixed with the contents of petechia and skin secretions from typhus patients, was injected under the skin of seventeen soldiers who had never had typhus fever. They all remained well.

3. Twenty-eight healthy soldiers slept for four or five days in the same wards with typhus patients; some of them, even, were covered with the bed-clothes of the latter, but none fell ill. The author concludes, therefore, that spotted typhus is not contagious.

4. If patients with typhus fever are scattered among other patients, the mortality and number of cases always decrease; if, on the contrary, all the typhus patients are put together, the disease spreads more rapidly, and the individual cases become more intense.

5. According to the course and the character which acute diseases assume in the second half of summer, it is possible to predict whether or not there will be an epidemic of typhus during the winter in the army. The latter has also been observed to set in when the effects of quinine in common intermittent fever have been less powerful.

Hæmorrhagic and Pleuritic Exudations.—They generally last very long in patients affected with scurvy, and bring on death by hindering respiration. If the exudation be removed by puncture, the patients generally soon die of anæmia and exhaustion, because the exudation recurs rapidly. In five cases when the author aspirated only part of the fluid, the rest was quickly absorbed, and the patients recovered.

Croupous Pneumonia.—In cases of bilateral croupous pneumonia with incipient œdema of the lungs, the author has found that, by aspirating blood directly from the lungs with Dieulafoy's aspirator, the patient is more efficiently relieved than by the application of leeches, cupping, etc.

PEACOCK ON CHOREA.—Dr. Peacock (*St. Thomas's Hospital Reports*, new series, vol. viii) gives an analysis of 92 cases of chorea which have come under his care since 1863; 26 of these occurred in males, 66 in females. The extreme limits of age were 27 and 7, and the mean age is almost alike in both sexes, being about 12½ years. In 23 cases no cause could be assigned, in 25 there was a history of

fright, in 6 there had been falls on the head, and, in 9, rheumatism is set down as the exciting cause; 54 were reported never to have had any form of rheumatism, and, in 24, rheumatic symptoms had been observed at various times before the onset of chorea. There were decided signs of heart-disease in 14 cases. Dr. Peacock's experience does not agree with that of Sir Thomas Watson, who believed that chorea was more common in children having dark hair and eyes than in those of a fair complexion. What is more important is the fact that, out of the 92 children, only three or four could be said to be well grown, healthy, and well nourished. Rheumatism, he observes, seems to give rise to chorea rather by directly affecting the brain and spinal cord, or their membranes, than by causing heart-affection, and so secondarily involving the nervous system. There were 3 fatal cases, 15 relieved, and 74 cured.

GANGHOFNER ON HYPERÆSTHESIA OF THE PHARYNX AND LARYNX.—The author gives an account of eight cases of purely nervous hyperæsthesia of the pharynx and larynx (*Prag. Med. Woch.*, 1878, Nos. 38, 40). They are mostly such as come often under the notice of specialists, and are a source of much trouble and annoyance both to them and their patients on account of their pertinacity. In by far the greater number of the cases, even the most scrupulous examination failed to detect any anatomical cause by which to explain the troubles; in others, there were minute pathological affections, small erosions in the pharynx, etc., which were, however, too insignificant to account for the sufferings of the patient. In a few cases, Ganghofner observed other nervous troubles, such as cardialgia, neuralgic pains, etc., nervous dysphagia, and œsophagismus.

The troubles caused by the disease are a feeling of burning, pressure, pricking and dryness in the pharynx or larynx, sometimes in both organs at once; at the same time, the patients sometimes complain of a feeling as if their throat were being forcibly compressed, or as if they had a foreign body in the throat; in some cases, the pain extends as far as the tip of the nose or the tongue. If the larynx is affected, spasms of the glottis occasionally ensue, or a purely nervous spasmodic cough without any expectoration; the latter sometimes as often as thirty or forty times daily, but, as a rule, not quite so often. These phenomena are either persistent, or they only appear periodically, and are then provoked by much speaking, irritating food, or mental emotions.

Among the 24 cases observed by the author were 15 female patients and 9 male, averaging in age from 8 (boy) to 57 years. The etiology of this affection is not clear. It has often been ascribed to anæmia, but anæmia did not exist in every case. It was generally preceded by inflammation of the organs of the throat, simple anginas, etc. It often occurs in hysterical patients, but has also been met with in cases where no other hysterical symptom was manifest. The author has frequently observed that several individuals in the same family have successively been affected by it, so that he is inclined to think that there may be a hereditary disposition to this affection. Affections of the genital organs also seem to have some influence on its development.

Ganghofner discriminates two forms of the affection—one due to a continuous irritation of the peripheric terminations of the nerves in the mucous membrane, and another purely central, and not caused

by any external influence. In treating this affection, it must always be borne in mind that there is a great tendency to frequent relapses, and that it is a very stubborn disease. The treatment consists in cold baths, sea-bathing, change of air, milk cures, mountain air, etc., or in the use of the galvanic current. Painting the throat with solutions of bromide of potassium, tannin, glycerine, morphine, inhalations of weak solutions of salt, etc. In some cases, it will be found advisable to give bromide of potassium internally, or even to administer hypodermic injections of morphia.

DALLY ON HYSTERICAL ATTACKS OF GASTRIC ORIGIN.—M. Dally communicated to the Société de Thérapeutique at a recent meeting (February 12) the following two interesting cases which had come under his observation. The first was that of a young girl who was always taken with paroxysms of hysteriform clonic convulsions during the act of swallowing her food, principally of a solid nature. A slight touch or pressure on the stomach would also invariably cause a paroxysm, which would increase in violence if the pressure was greater. Besides those cases where the attacks were brought on by external causes, he noticed that these phenomena were always in some way connected with the passage of food through the pylorus. M. Dally treated the patient with electricity, applying the constant current to the region of the stomach; this at first brought on most violent attacks, lasting from four to five hours; but the treatment having been continued with the addition of "douches", the patient rapidly improved in health.

In the other case, the paroxysms were less violent, and never lasted more than three to five minutes. The patient was a lad of 13, in whom they also were caused by the passage of food through the pylorus. He was treated in the same way as the girl, and recovered rapidly. Both cases present a great resemblance to each other; perhaps the only difference being that in the girl the paroxysms were evidently of the kind noticed in hysteria major, whilst, in the boy, they resembled the twitching of St. Vitus's dance.

GUILLERMET ON THE PULMONARY COMPLICATIONS OF TYPHOID FEVER.—The following are the conclusions to which the author has arrived (*Thèse de Paris*, 1878):—1. The symptoms of typhoid fever may be classed under two heads, as derived from congestive or destructive lesions. 2. The congestive symptoms are particularly marked in the skin, the intestines, the brain, the lungs, and in other viscera. 3. The lungs are always congested in typhoid fever. These congestions are not stationary in the first stages of the disease, but may easily be drawn to some other place; therefore, counterirritants applied to the skin will always prove useful. 4. Later on the pulmonary congestion is caused by stasis, which frequently originates in degeneration of the heart. 5. The stasis in its turn causes enlargement of the spleen, acute cedema, and bloody infiltration of the lungs. 6. The enlargement of the spleen is complicated with catarrh of the bronchi, which gives rise to the emphysema that is occasionally observed. 7. Inflammation of the lungs occurs sometimes, generally in the shape of lobular, lobar, or interstitial pneumonia. 8. True pneumonia is very rare in typhoid fever, it is almost always a pseudo-pneumonia. If true pneumonia, complicated with hepatisation, should come under notice, it will always be on the fourteenth day of the illness, and

during convalescence. 9. Tuberculosis has often been observed following in the rear of typhoid fever. 10. The complications of typhoid fever which do not often come under observation, are primitive pneumonia, pleurisy, hæmoptysis without tubercles, pneumothorax, infarcta, and gangrene of the lungs. 11. Primitive pneumonia in typhoid fever is a rarely occurring affection, and it is often difficult to prove that the fever was the primary affection. 12. Pleurisy occurs very seldom without inflammation of the lungs; it generally develops towards the end of the illness or during convalescence. The exudation may be very considerable, and have no tendency to be reabsorbed. 13. Hæmoptysis has sometimes been observed; it is mostly a symptom of a pulmonary apoplexy, but may also be caused by the patient's having taken cold. 14. Pneumothorax has once come under observation in the course of typhoid fever, though there were no lesions of the lungs sufficiently considerable to explain their rupture. 15. Infarcta have often been found in the lungs of typhoid fever patients. 16. Infarcta are often the cause of secondary inflammations of the lungs or the pleura. 17. Infarcta on a whole originate in the decreasing energy of the cardiac action, through which coagulations form, and thereby give rise to emboli. At other times these emboli come from some gangrenous or purulent part of the organism, when they have a typhoid character. 18. In the same way the gangrenous affections of the lungs may be explained. 19. If an embolus should be thrown into the principal trunk of the pulmonary artery, or into one of its principal branches, death is rapidly caused by asphyxia.

SNELL ON THE CURATIVE INFLUENCE OF MANIA ON OTHER BODILY DISTURBANCES.—The author quotes a case of severe icterus (*Allg. Zeitschr. f. Psych.*, xxxv, p. 446) in which the patient, who was almost reduced to a hopeless condition, rapidly recovered, after having gone through an attack of acute mania. These attacks were repeated three times, and every time left the patient stronger and better than before. The author has observed similar curative effects of maniacal excitement in a series of chronic affections, such as the initial stage of phthisis pulmonum, chronic disease of the liver, gout, rheumatism, digestive troubles, and different functional nervous troubles. This effect cannot be ascribed solely to increased muscular activity, as the patient mentioned above was quite unable to move during the first stage of mania, on account of her extremities being much swollen. The author tries to explain this fact, by assuming that nervous power is much increased during those times, as evidenced by the rapid absorption of exudations and similar processes.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

- AMORY, R.—Experiments and Clinical Observations on the Hæmatinic Properties of Dialysed Iron. 5 cases. (*Boston Med. and Surgical Journal*, 1879, c. 453-459, 5 pl.)
- BOWDITCH.—A Modification of Du Bois Raymond's Unpolarisable Electrode. (*Boston Med. and Surg. Journ.*, 1879, c. 332.)

- BROUSSES.—Une nouvelle contre-indication du chloral. (*Gas. Med. Chir. de Toulouse*, 1879, xi, 17-20).
- FLEMMING.—Ueber Sandbäder. With discussion. (*Fahrt. d. Gesellsch. f. Nat.- u. Heilk. in Dresd.*, Leipzig, 1879, 68-71.)
- GUNDNUM, F.—Veratrum viride. (*New Preparations*, Detroit, 1879, iii, 53.)
- HÖGYES, A.—Anmerkungen über die Physiologische Wirkung des Iodoform und über seine Umwandlung in Organismus. (*Arch. f. Exper. Path. u. Pharmacol.*, Leipzig, 1879, x, 228-260.)
- JACOBI, M. P.—Provisional Report on the effect of Quinine upon the Cerebral Circulation. (*Arch. of Med. N. Y.*, 1879, i, 33-43.)
- KIER, H. M.—Verba Santa (Eriodyction Californicum), as a means of Disguising the Taste of Quinine. (*Pacific Medical and Surgical Journal*, San Fran., 1879, xxi, 451.)
- LANDOWSKI, E.—Le froid, son influence sur l'organisme au point de vue physiologique, pathologique, et ses applications thérapeutiques. (*Alger Med.*, 1879, vii, 14, 38.)
- POPE, B. A.—Opium as a Tonic and Alternative; with Remarks upon the Hypodermic Use of the Sulphate of Morphia, and its Use in the Debility and Amaurosis consequent upon Onanism. (*New OrL. Med. and Surg. Journ.*, 1879, n. s., vii, 715-728.)
- REGNAULD, J.—Études expérimentales sur le chloroforme anesthésique. (*Arch. Gen. de Med.*, Par., 1879, cxliii, 257-269.)
- SASEZKI, N.—Beiträge zum klinischen Gebrauch des Pilocarpinum muriaticum. (*St. Petersburg. Med. Wochenschr.*, 1879, iv, 41-43.)
- VIRCHOW, R.—Chloroform-und Chloral-Narkosen. 4 Fälle. (*Charité-Ann.*, Berl., 1879, iv, 792.)

KEITH ON POTATO-EATING AS A CAUSE OF DIPHTHERIA.—Dr. M. C. Keith charges much of the diphtheria prevalent in Nebraska to the eating of white (Irish) potatoes (*British Medical Journal*, March 1879, p. 407). The writer rests his assertions upon a record of twelve years of his father's practice, prior to 1861, and seventeen of his own, covering a period of twenty-nine years, and including a personal knowledge of eleven hundred cases of diphtheria. Dr. Keith always advised families of his friends to avoid the use of the tuber, believing that rotten potatoes were the cause of the diphtheria. Those who did not eat the tuber escaped, while potato-eating families, on all sides, were struck down with the disease.

NEALE ON THE DIGESTIVE POWERS OF THE PAPAYA JUICE.—Dr. Richard Neale, referring to an extract from a German naturalist, relative to the wonderful digestive powers of the papaya juice upon meat-fibre (vide *British Medical Journal*, March 1879, p. 498), adds his personal testimony to the marvellous power of the plant, and directs the attention of readers to a very full and interesting paper upon the subject contributed by Dr. Roy to the *Glasgow Medical Journal*, January 1874, an abstract of which appears in *Braithwaite's Retrospect*, vol. i, 1874, p. 75. [At p. 599 in the *Journal*, there is a further notice from Mr. Monro, wherein it is stated that horses tied under the trees rapidly lose health, any pressure on the body of the animal leaving an indentation; also that steel becomes softened by the sap of the tree. As the reporter, while in Java, kept a large stud of horses for seven or eight years, in open sheds, surrounded by the papaya tree, and always found them in good condition, the first statement must be received with caution, and certainly he never heard that steel was

so wonderfully influenced by the sap of the tree.—*Rep.*]

SHANNON ON THE TREATMENT OF THE DYPNŒA OF GOÏTRE.—Mr. Alexander Shannon, in the *British Medical Journal*, April 1879, p. 545, draws attention to the great value of stramonium, burnt during the paroxysm. A teaspoonful of the following formula affording speedy relief: stramonium powder, two drachms; nitrate of potash, one drachm; opium, one scruple.

SAUNDBY ON CODEIA AS A SEDATIVE.—Dr. Saundby, in the *British Medical Journal*, April 1879, p. 546, urges the more frequent use of codeia as a hypnotic and general sedative; the facility with which the drug is borne by those who cannot take opium or morphia being better known to our continental brethren than to those at home. [A reference to the *Medical Digest*, section 464, will show that the English journals have not been silent as to the virtues of codeia, and, since the publication of the *Digest*, Drs. Scatliff and Ord have spoken highly of codeia in the treatment of diabetes. A free use of Collis Browne's chlorodyne, during many years, has led the reporter to believe that the active agent of this compound may be codeia, and not morphia, as so frequently thought.—*Rep.*]

WIGLESWORTH ON ATROPIA IN WHOOPING-COUGH.—Mr. Arthur Wiglesworth, in a paper read before the Liverpool Medical Society (*Lancet*, April 1879, p. 513), drew attention to the great value of atropia in this affection. The dose is 1-120th of a grain, given in the morning fasting, to children from one to four years of age, and watching its effects, either increasing or diminishing the dose, as circumstances require, giving it only once a day, unless the attack be very severe, and then half a dose is given at bed time. The results that follow are: 1. A steady diminution in the number of the paroxysms; 2. A diminution in the duration of the paroxysms; 3. A change in the character of the "whoop", showing the vocal cords as not so tense. [Belladonna has long held the most prominent place in the treatment of whooping-cough, as may be readily seen by consulting the journals of past years. By many, nitric acid is believed to be specific, and belladonna to hold the second place; vide *British and Foreign Medico-Chirurgical Review*, vol. ii, 1860, p. 306. In the reporter's own practice, small and frequent doses of sulphate of atropia in simple syrup, speedily and pleasantly subdue the paroxysms; but the agent can only be entrusted to very careful nurses.—*Rep.*]

DUFFIN ON SALICYLIC ACID IN LUPOID ULCERATION, LOCALLY.—Dr. Duffin notes, in the *Medical Times and Gazette*, April 12, 1879, p. 399, a case of lupoid ulceration of the face of four years' duration, which was greatly benefited by the use of salicylic acid, both in lotion and powder, applied locally.

YEO ON CHAULMOOGRA OIL IN PHTHISIS.—Dr. Burney Yeo (*Practitioner*, April 1879, p. 241) reports nine cases in which this drug was administered at the request of M. R. C. Lepage. The taste was most repugnant to most of the patients, and in no instance could any real benefit be attributed to its use.

STUART ON SULPHUR AS A TOPICAL APPLICATION IN DIPHTHERIA.—Mr. J. A. Erskine Stuart, in the *Practitioner*, April 1879, p. 249, testifies to the

good results obtained from the local use of sulphur powder in diphtheritic pharyngitis. So marked appeared the benefit, that Mr. Stuart urges others to try the effect of the remedy, which acts not merely as a "scouring powder", according to Dr. Oertel, but specifically upon the membrane. [Those who have tested the value of sulphurous acid, to which the youngest patient seldom objects, are not likely to adopt Mr. Stuart's suggestion; lactic acid has, however, a far greater power in dissolving and loosening the false membranes than even sulphurous acid, and is, at the same time, rather pleasant to the palate than otherwise.—*Ref.*]

THOMPSON ON THE THERAPEUTICAL VALUE OF DRUG SMOKING.—Dr. Reginald E. Thompson, in the *Practitioner*, April 1879, p. 266, advocates the above plan of administering many drugs. A standard paper is formed by saturating Swedish filtering paper in a solution of nitrate of potash, with tincture of tobacco and oil of aniseed to destroy the unpleasant odour of burnt paper. Swedish filtering paper, size 4 ins. \times 2½ ins.; potasse nitratis, gr. ½; tinct. tabac., ℥x (made with 2½ oz. of leaf to a pint of spirit); ol. anisi, ℥j. A solution of any drug desired is used to saturate the paper, and so the dose can be exactly regulated; the tobacco not causing any appreciable effect on the system. Opium was the drug used, which, in doses of the 1-64th of a grain, was found sufficient to begin with. In this small dose, great relief was obtained in the harassing cough of phthisis, in the dysphagia accompanying ulceration of the larynx, in those undeveloped forms of asthma where Joy's cigarettes are also valuable, and also in the dyspnoea of asthma.

LOCKWOOD ON NITRATE OF PILOCARPIN IN SYPHILIS.—Mr. C. B. Lockwood tried this drug hypodermically on two patients in the Lock Hospital (*Medical Times and Gazette*, April 1879, p. 422). In a fisherman, aged 18, who had been under various treatments for several months for aggravated syphilitic symptoms, with no improvement, and who did not sweat while using calomel baths, one-sixth of a grain of nitrate of pilocarpin was injected every other day before a five-grain calomel bath. Profuse sweating followed for hours (from 7 P.M. to 4 A.M.), wetting the bed clothes through and through, and improvement rapidly set in, so that in a month he was nearly well. In the next case, a man, aged 27, no mercury had been previously used, and his body, limbs, and face, were covered with a bad tubercular psoriasis; the tonsils were slightly ulcerated, and there were remains of a hard sore. February 17, one-sixth of a grain of nitrate of pilocarpin was injected. Profuse sweating commenced in six minutes, and continued three hours and a half. This dose was repeated February 18, 19, and 20, then every other day till March 6, when he discharged himself as cured, although his throat was still slightly ulcerated.

RICHARD NEALE, M.D.

BROCHIN ON ERUPTIONS PRODUCED BY DRUGS.—An accurate knowledge of the various forms of cutaneous irritation produced by medicinal agents is so important to the practitioner, that we naturally hail with interest any addition to the somewhat scanty literature of the subject. It does not appear, however, that the inaugural dissertation by Dr. Thomas Deschamps, quoted by Dr. Brochin in the *Gazette des Hôpitaux*, contains more than a careful and orderly *résumé* of the symptoms produced by

these uncomfortable evidences of idiosyncrasy, and a tolerably complete tabular list of the various rashes noted by authorities.

In a succeeding number (Feb. 1), Dr. Brochin gives, on the authority of Dr. Cordes of Geneva, two cases in which the internal administration of turpentine seemed to have been responsible for the appearance of a generally diffused and very irritable erythematous eruption, and it is rather remarkable that attention should not have been previously directed to this coincidence, when we consider the family relationship between copaiba and the oleo resin of turpentine.

On Feb. 22, Dr. Brochin records two cases occurring in the practice of M. Bernard of Cannes, in which the use of creosote was followed by urticaria; but in neither instance does the evidence appear to us fully satisfactory. In the first, no relapse followed the subsequent administration of the drug, and in the second, although this form of proof was supplied, the patient appears to have been taking quinine at the same time, a fact which must be held as in some degree tending to complicate the diagnosis. It seems most desirable, in any attempt to generalise on the facts which have gradually accumulated on this interesting therapeutical problem, to distinguish those eruptions which follow the use of drugs with sufficient frequency to deserve enumeration among other physiological actions, from the mere evidences of stomach irritation, which may follow the ingestion of a wide variety of indigestible substances.

ROBERT FARQUHARSON, M.D.

LETZERICH ON THE USE OF BENZOATE OF SODA IN DIPHThERIA.—The author says (*Berl. Klin. Woch.*, No. 1, 1879) that he has repeatedly given this drug in diphtheria, and has always found it to answer very well. He attributes his success to the antiseptic properties of the drug, by which the development of the diphtheritic bacteriæ is arrested. He also points out that it is a most effective remedy in infantile, gastric, and intestinal catarrh, and in mycotic catarrh of the bladder. In short, he fully corroborates Professor Klebs's statement when he says, that in benzoate of soda we possess a very powerful remedy in all affections arising from the presence of contagious matter in the system. The following is the author's method of administering the drug: \mathcal{R} Natr. benz. pur. 5 grammes, solve in aqua destillat.; aq. minth. pip., $\mathcal{A}\mathcal{A}$ 40 grammes; syr. cort. leur., 10 grammes. Infants under one year were given a dessertspoonful every hour. Children from one to three years old, must take a larger dose, viz., a tablespoonful every hour, the proportion of the benzoate of soda being also increased from 5 to 7 or 8 grammes. To patients from three to seven years old, 8 to 10 grammes are given; those over seven, from 10 to 15 grammes. Adults should take from 15 to 25 grammes in the same solution, the proportion of the solvents and the syrup remaining the same. The diphtheritic membranes were powdered with benzoate of soda, in severe cases once in three hours, in lighter cases from two to three times daily. A solution of the strength of 5 per cent. forms a very efficient gargle for older children.

BOUCHUT ON CHLORAL AS AN ANÆSTHETIC FOR CHILDREN IN SURGICAL OPERATIONS, AND FOR THE EXTRACTION OF TEETH IN PARTICULAR.—M. Bouchut says (*Paris Méd.*, August 1878) that he has administered chloral to more than 10,000 patients without ever meeting with any accident. It

seems as if children could take chloral with much less danger than adults, and tolerate it for a long time, *e.g.*, children suffering from chorea have often taken from 100 to 120 grammes of chloral in a month; 1, 2, or 3 grammes, or more, given by the mouth will, according to the patient's age, produce complete anaesthesia, lasting from three to six hours. (For children under seven years the highest dose ought to be 3 grammes, and for infants between two and five years, 2 grammes.) The entire dose must be given at once in 100 grammes of a very sweet vehicle. Administered in the form of an enema, or of suppositories, the result will be the same as if given by the mouth. The anaesthesia is complete an hour after the drug has been administered, and a great number of surgical operations, such as extraction of teeth, thoracentesis, opening of abscesses, etc., may then be safely performed.

SOLGER ON ANTISEPTIC DRESSINGS WITH BORIC ACID.—The author says (*Berl. Klin. Woch.*, 1878, No. 42) that he uses boric acid in the antiseptic treatment of wounds in the following way. The cotton-wool which is going to be used for the dressing is plunged into a 10 per cent. water solution of boric acid, which is warmed to a temperature of 50 deg. R., then taken out and allowed to cool down to 35 to 40 deg. R., put on the wound, which has been previously thoroughly disinfected, and kept in its position by another layer of dry cotton wool and a bandage. The high temperature of the dressing has a hæmostatic effect on the wound. According to the manner in which it is used, boric acid will either increase or lessen the property of cotton-wool, allowing the secretions of wounds to filter through it. If a plug of cotton-wool be soaked in a 15 to 20 per cent. solution of boric acid at a temperature of 60 deg. R. and above, then allowed to cool down to 35 deg., and spread out over the surface of a suppurating wound or abscess, or a fresh wound, and fastened by means of dry wool and bandages, the boric acid forms on evaporating a large quantity of boric acid crystals, at the same time the wool adheres so firmly to the skin that it entirely excludes the air and remains thus for months. On the contrary, the wool will allow the secretions to filter through it if it has been soaked in a mixture of boric and carbolic acid (five parts of boric and two parts of carbolic acid, and 100 parts of water). Boric acid dressings will be found very useful in the minor surgical operations.

FÉRÉOL ON THE GOOD EFFECTS OF AMMONIACAL SULPHATE OF COPPER IN NEURALGIA OF THE FIFTH NERVE (TIC DOULEUREUX).—Dr. Féréol having found several times obstinate cases of neuralgia of the fifth nerve, which had resisted a variety of other means, rapidly and completely cured by the administration of ammoniacal sulphate of copper, reports to the Académie de Médecine (April 1st, 1879) on the subject (*La France Médicale*, April 5th). The first case is that of a strong man, aged 32, who had suffered so atrociously from terrible neuralgic crisis, that on some days he was scarcely free for a few minutes at a time. Six teeth had been vainly extracted, and anti-neuralgic medication exhausted. He then tried ammoniacal sulphate of copper. The amelioration was considerable on the first day; on the second, the patient slept all night for the first time in two months; and, at the end of ten days, he left the hospital cured. A second case of supra-orbital neuralgia in a strong young man, occurring every morning and ceasing at noon, had been vainly

treated by leeching, blistering, and full doses of quinine. The ammoniacal sulphate of copper, given in a dose first of all of 0.10, and then 0.15 centigrammes daily, produced an immediate amelioration of pain, and the patient described himself as cured. The medication was continued for a week, and the neuralgia did not return. Similar effects were obtained by M. Féréol in a lady aged 43, delicate, nervous, but not hysterical, suffering from persistent right hemicrania, with atrocious pain in the fifth pair of nerves, which drove her almost wild, and for which she had vainly tried quinine, aconite, morphia, hypodermic injections, etc. Similar results were obtained in an old man, aged 60, suffering for eighteen months from a horribly painful neuralgia, starting from the nasal branch of the fifth, and in whom local and general treatment by the oldest of anodynes and anti-periodics, had been vainly tried. In this case, the results were not permanent; the patient, having an invincible dislike to the sense of nausea produced by the sulphate of copper. The formula employed is the following: distilled water, 100 grammes; syrup of orange flower or peppermint, 30 grammes; ammoniacal sulphate of copper, 0.10 to 0.15 centigrammes, to be taken in the course of twenty-four hours, especially during food, in order to avoid irritating the stomach. In one patient, the dose was raised to 60 centigrammes a day without any other inconvenience than slight gastric pain, and a little diarrhoea. The medium dose was 0.10 to 0.15 centigrammes, which should be continued for from ten to fifteen days, even after the complete disappearance of the pains.

IDIOSYNCRASIES IN REGARD TO THE USE OF SILVER NITRATE.—Dr. Meriwether Lewis of Lenoir, Tenn., reports (*Nashville Journal of Medicine and Surgery*, October, p. 147) a number of instances occurring in the members of one family, in which the use of nitrate of silver lotions caused excessive irritation of the mucous membranes and marked reflex nervous phenomena.

SCHAEFFERSTEIN ON CARBAZOTATE OF AMMONIUM IN TREATMENT OF MALARIAL FEVER.—J. J. Schefferstein of Olmy, Ill. (*Illinois Medical Recorder*, October), failed to obtain beneficial results in the use of carbazotate of ammonium in malarial fevers, when he employed it in cases that had been affected for some months or years by malarial poisoning. When, however, he prefaced its use by the exhibition of saline purgatives, diaphoretics, and chalybeate tonics for several (twelve to fourteen) days, it seldom failed. He advocates the use of the remedy in small doses, and in combination with other remedies, such as arsenic and iron. A quarter to one grain may be used for a dose, and may best be given in pill form repeated thrice daily for three to six days. In doses of one-sixteenth of a grain it may be continued two to three weeks. The experience of this writer in 700 cases shows that, while the carbazotate of ammonium is not so useful in breaking up an attack of malarial fever as quinia, it protects the system longer from a recurrence, and is, he believes, the *sine quâ non* of all remedies for "chronic chills".

THE USE OF IODINE IN MALARIAL FEVERS.—Since the publication of references to this subject (see *New Rem.*, pp. 234 and 298, 1878), a number of writers have contributed their experiences to various medical journals. J. H. Hervey of Indianapolis, in

the *Cincinnati Lancet and Clinic*, claims to have been using the remedy for the third of a century. He has never considered it a substitute for quinia in arresting the paroxysms of malarial fever, but finds it to be very serviceable in removing the various sequelæ and in preventing relapses. His custom is to use the following formula: *R Tinctura iodinii, tinct. ferri chloridi, tinct. sanguinaria, aa equal parts*. Thirteen to fifteen drops to be taken after each meal for one to four weeks. This is used after the recurrence of the paroxysms has been arrested with quinia, and the latter is also continued in one-grain doses, before meals, for eight to ten days.

E. D. Laughlin of Orleans (*Cin. Lan. and Clinic*) refers to the *Amer. Jour. of Med. Sci.*, January 1875, in which is quoted an article by Dr. Munro, in which he claims to have tried iodine as an antiperiodic in 1869, in accordance with a suggestion of Willebrand. Dr. Laughlin has, since 1875, used iodine in chronic ague with the most happy results, and also with good effect in typho-malarial fevers combined with other remedies. He prefers Lugol's solution to the tincture, giving ten to twelve drops thrice daily in ague, and five to eight drops every six hours in fever without regard to pyrexia. Its influence in reducing enlargement of the spleen is very decided.

In a subsequent number of the same journal, J. N. Schell, M.D., of Frankton, Ind., says, that since the appearance of Dr. Fordyce Grinnell's article (see *New Rem.*, p. 298) he has used iodine in forty cases of quotidian and tertian types, and has had as good results as with quinia. Some cases of quotidian ague were arrested at once, while two cases were not at all affected; he used the following formula: *R Tinct. iodinii, gtt. lx; potass. iodidi, gr. x; syr. simplicis, ʒj*. A teaspoonful taken half an hour after each meal.

ESSENTIAL OIL OF MYRTLE is soluble in fixed oils and fats, in ether, and in alcohol. Applied to the sound skin, it has no effect, but on a denuded surface it produces irritation. It is a carminative stomachic, and may be given as such in doses of about ten drops. An overdose produces headache, a sensation of fatigue, and prostration. It is an excellent antiseptic, and may render important service in antiseptic surgery.—*Journ. de Ph. et Ch.*, 1878, 551; quoted in *New Remedies*.

HARNACK ON DITAINE.—(*Ber. d. Deutsch. Chem. Ges.*, 1878, 2,004, Erich Harnack.) Jobst and Hesse, in 1876, investigated the active principles of ditabark, and came to the conclusion that it contained two alkaloids, namely, ditamine and echitamine (comp. *New Rem.*, 1876, 146). Mr. Harnack has, however, found in the bark only one alkaloid, which he names *ditaine*. This *ditaine* differs from the bodies formerly known under this name by this, that the latter were impure compounds, while the new alkaloid is, according to the author, a chemically pure alkaloid. As the alkaloid is with difficulty soluble in ether, and this solvent extracts it but sparingly from an alkaline solution, the author, after several trials, found that it could best be isolated by precipitating it from a carefully purified tincture of the bark with phosphotungstic acid. The free *ditaine* is easily soluble in water, alcohol, and chloroform; little soluble in ether, benzene, and petroleum-ether. The hydrochlorate is soluble in hot water and alcohol. This salt has, according to the author, the composition $C_{22}H_{20}N_2O_4 \cdot HCl$. The physiological effects which the crystallised *ditaine* produces in the organism of certain vertebrate animals agree completely with

those obtained from *curare*, as had previously been demonstrated by the author.

BERTHERAND ON ARENARIA RUBRA IN GRAVEL AND CATARRH OF THE BLADDER.—E. L. Bertherand says (*Journ. de Ph. et Ch.*, 1878, 485) *Arenaria rubra* is a very common plant in the environs of Algiers and in the neighbouring districts. As it prefers a sandy soil, it is vulgarly called *sabline*. This plant is much used in Malta and Sicily by physicians in the treatment of vesical catarrh and even gravel. The author found, on trial, that it is a most effective remedy in these complaints; he also noticed the remarkable fact that, after its use, the peculiar putrid, ammoniacal, and often intolerable odour of the urine of such patients, is entirely removed. The best method of administration is a decoction of the dried plant.

COLLIER ON KINATE OF QUININE FOR HYPODERMIC INJECTION.—Mr. Henry Collier of Guy's Hospital proposes, in the *Pharmaceutical Journal*, the use of kinate of quinine. He says he has tried a solution of the so-called neutral sulphate of quinine, but even after a second crystallisation its solution was very acid, and it was not more soluble than one in ten. Hydro-chlorate of quinine is fairly soluble in warm water, and such a solution has been injected warm, but the result was not satisfactory. In Parrish's *Practical Pharmacy* it is stated that kinate of quinine is soluble in four parts of water, and a process is given for its preparation direct from cinchona bark. Mr. Collier, however, procured from Mr. Morson some kinate of calcium, which he converted into barium kinate. This salt is freely soluble in water, and upon adding to its solution sulphate of quinine in powder, the whole of the barium is precipitated, and kinate of quinine remains in solution. Upon evaporation, the kinate comes out in amorphous masses; even when evaporated under the air-pump over H_2SO_4 , the same result is obtained. A drop of the same solution spread over a glass slide and evaporated slowly, shows under the microscope very distinct crystalline tufts. He reduces the solution of kinate to dryness over a water-bath, and then powders the residue. The kinate obtained by slow evaporation at ordinary temperatures contains a large quantity of water, some of which it loses by keeping at 90° Fahr., so that to ensure a definite product it is necessary to dry it.

Kinate of quinine is very soluble in water, and its solution is perfectly neutral. The strength of the solution which is used at Guy's Hospital is one in four. Mr. Collier generally prepares ʒj of the solution at a time by putting into a beaker 3 vj aq. distil. and ʒij kinate of quinine, heating until the salt dissolves, which it does almost immediately, and then making up with aq. distil. to ʒj. It is quite possible to make a permanent solution containing one in three, but one in four is more convenient for use. Even with this strength, the syringe requires constant washing, and the solution great attention, as the stopper and neck of the bottle soon become coated with solid kinate. Kinate of quinine has so far given satisfaction, and as it possesses the two great qualities of solubility and neutrality, perhaps this salt will supply an existing want.

M. Yvon, in the *Journal de Pharmacie et de Chimie*, recommends the use of lactate of quinine for hypodermic injection; and, in *L'Union Pharmaceutique* of last May, the sulphovinate of quinine is stated to be very suitable for the same purpose.

SQUIBB ON HYDROBROMIC ACID.—Dr. Squibb (*Note on Hydrobromic Acid*, Brooklyn, 1878) advocates a process for preparing hydrobromic acid from bromide of potassium and sulphuric acid, which he finds to be more convenient and to yield a purer product than Fothergill's method. The acid is on its trial as a sedative neurotic, and as a substitute for the alkaline bromides; but a serious drawback to its administration in full doses is the degree of dilution rendered necessary by its sharp biting taste. A dose of 50 grs. (41.6 minims) of Squibb's solution, equivalent to 25 grs. of bromide of potassium, requires not less than 3viij of liquid, containing at least an ounce of sugar in solution. Dr. Fothergill, however, employs the acid in smaller doses, and holds it in high esteem.

PEEL ON TREATMENT OF TETANUS BY CHLORAL HYDRATE.—Dr. Peel (*Dublin Medical Journal*, April 1879) reports a case of cure, and adds: Among the numerous medicines used in the treatment of tetanus, chloral is one of the latest, and appears to possess considerable advantages. Certainly in this case, as I have already stated, the good effect was at once made evident. In the *Boston Medical and Surgical Journal*, June 24, 1875, there is an account of a large number of cases, all French, treated by chloral, with most satisfactory results. In other journals, too, there are numerous cases.

Bauer, in his article on tetanus in Von Ziemssen's *Cyclopadia*, states that "other remedies are practically and properly being more and more supplanted by chloral hydrate. This is superior to every other means, even the inhalation of chloroform, for the accomplishment of the purpose in hand". After reviewing the various drugs which have been used, he goes on to say: "The control of the spasm will be attained most satisfactorily by the use of chloral and bromide of potassium." The superiority of chloral, given by the stomach, over chloroform inhalations, is accounted for by one writer (M. Pugliere) thus: "The chloroform expends its force chiefly upon the brain, whereas chloral which has been administered by the stomach, after it reaches the circulation, sets free chloroform, which thus acts on the entire nervous system."

Billroth also states that hydrate of chloral has been given with some success in tetanus, and that several cases have recovered.

MURRAY ON THE PAPYA JUICE.—Dr. Ivor Murray of Scarborough writes: Attention has been directed of late to the juice of the papya or papaw tree. It may not be uninteresting to your readers if I record briefly my experience in reference to its medicinal action. During my long residence in the East, I was in the habit of ordering patients with weak digestive powers to use the fruit in preference to any other for dessert. It is not unlike, both in appearance and structure, to an oblong musk melon. The flesh is also somewhat similar in taste, but with a strong pungent flavour, as if pepper had been added to an ordinary melon. I invariably found patients benefited by its use, and I not unfrequently used it myself. Having the fresh fruit always at command, there was no necessity for obtaining an extract, which would have been more costly and less easily taken. In 1874, however, my attention was directed to it again by an article by Dr. G. C. Roy in the *Glasgow Medical Journal*, and I accordingly wrote out to China, and, by the kindness of Messrs. Watson of

the Hongkong Dispensary, I obtained a supply of the inspissated juice, prepared by making incisions into the fresh fruit, and collecting the milky fluid in the same way as in the preparation of opium. This was ground to powder and used after meals, much in the same way as pepsin. I employed it with very good results in several cases of dyspepsia, and should have continued to do so, but, towards the end of 1876, I found the then new preparation of lactopeptine answer every purpose, and as it was more readily obtained did not send for a further supply of the papya juice. It is, however, a substance well deserving of further investigation, and the inspissated juice can be obtained in unlimited quantity at a very moderate cost.

LE TOURNEAU ON ELECTRISATION OF THE BRAIN.—After some generalities on the action of vaso-motor nerves and their influence on the circulation of the vessels of the brain (*Le Gazette Hebdomadaire*, Sept. 20, 1878), the author concludes from experiments by electrifying the cervical ganglia of the head without dissection on living animals, that it is possible to act upon the circulation of the brain by electricity in an effective manner. He thinks that this method may be employed for combatting purely congestive cerebral disturbance in cases, for example, where the symptoms of disorder are of recent origin, infrequent and unaccompanied either by degeneration of the nerve-elements, capillaries, by exudations, or by sustained new growth. Thus, he was enabled in one patient to overcome, without any other treatment, a tendency to cerebral congestion, which had already shown itself by two attacks, followed by loss of consciousness. Each electrification, whether of the brain or of the superior cervical ganglion, produced immediate relief, sometimes followed by an irresistible desire to sleep. This method of cephalic electrification appeared to him peculiarly indicated in the treatment of mental maladies, especially those which are not of too remote a date. He has treated in this way, with success, two cases of melancholy provoked, the one by excess of intellectual labour, the other by alcoholic abuse. From a practical point of view, M. Le Tourneau recommends that the period of electrification should be very short. Each sitting should really last not more than six minutes. It is better to repeat them more often, in order to afford in some sort gymnastic education by the electric current. One may be advantageously carried out each day, either by applying the electrodes as directly as possible over the superior cervical ganglion or by putting the positive pole on the nape of the neck, and the negative pole on the forehead or the temple. The author prefers the latter proceeding. As to the number of elements which should be employed on man, the elements of the pile Trouvé should not be exceeded; for the most part ten to twelve suffice. Too strong currents cannot be employed on account of the giddiness which they almost invariably produce. M. Le Tourneau adds, finally, that continuous currents should not be exclusively employed; it is good to interrupt them from time to time; once, for example, every minute, in order to maintain pretty constantly at the same point the denomination of calibre of the vessels which is produced by the current, and the resultant relief of anæmia.

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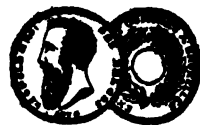
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RECENT PAPERS.

- BAGINSKY, B.—Die rhinoskopischen Untersuchungs- und Operationsmethoden. (*Samml. Klin. Vortr.*, Leipz., 1879, No. 160. Chir. No. 50. 1363-1396.)
- BAUM.—Resection eines carcinomatösen Dickdarmsstückes. (*Centralbl. f. Chir.*, Leipz., 1879, vi, 169-176.)
- BRESGEN, M.—Das Rose'sche Verfahren der Lagerung, mit herabhängendem Kopf bei Tracheotomie. (*Med.-Chir. Centralbl.*, Wien, 1879, xiv, 87.)
- BURGE.—A Case of Congenital Hernia, with Extraordinary Complications. (*Med. and Surg. Reporter*, Phila., 1879, xl, 231.)
- DORFWIRTH.—Hoher Blasenschnitt; Heilung ohne antiseptische Behandlung. (*Wien. Med. Presse*, 1879, xx, 209.)
- DUDON, E.—Hernie du testicule à travers une plaie du scrotum. (*Journal de Méd. de Bordeaux*, 1878-9, i, 320.)
- GRENSER, P.—Spontane Thrombose der Arteria cruralis bei einem 4 jährigen Mädchen; Exarticulation im Kniegelenke; Heilung. (*Jahresb. d. Gesellsch. f. Nat.-u. Heilk. in Dresd.*, Leipz., 1879, xiv, 111-115.)
- GOEDE.—Imperforation de l'anüs; opération de Littre, succès; établissement d'un anus périméal; guérison. Situation de l'S iliaque dans la fosse iliaque chez le nouveau-né; théorie. (*J. de Med. et de Chir. prat.—Arch. de Tocol.*, Par., 1879, vi, 108-112.)
- GUSSENBAUR, C.—Ueber das Schlussresultat der im verfloßenen Jahre referirten Stomatoplastik. (*Verhandl. d. Deutsch. Gesellsch. f. Chir.*, Berl., 1878, vii, pt. 2, 77, 1 pl.)
- JEWETT, C. T.—Driving a Truck for a Week with a Wound of the Brain; Complete Recovery. (*Hosp. Gaz.*, N. Y., 1879, vi, 39.)
- KLEFFEL.—Ein Fall von vollständiger Anreissung der Hand. (*Berl. Klin. Woch.*, 1879, xvi, 123.)
- KORNFELD, H.—Ein Fall von Gehirnhautentzündung mit tödtlichem Ausgange in Folge von Misshandlung, ohne äussere Verletzung. (*Friedreich's Bl. f. Gerichl. Med.*, Nürnberg, 1879, xxx, 81-88.)
- KOHN, S.—The Solid Rubber Bandage in Surgical Practice. (*N. Y. Med. Rev.*, 1879, xv, 319-321.)
- LANE, W. W.—Some Remarks on Amputation of the Penis. (*North Car. Med. Journ.*, Wilmington, 1879, iii, 148.)
- LEFFMANN, H.—Injury to the Head attended with Temporary Loss of Memory. (*Med. Bull.*, Phila., 1879, 1, 23.)
- NEDOPIL, M.—Die Laparosplenotomie. (*Wien. Med. Woch.*, 1879, xxix, 221-226.)
- PICARD.—Des dangers du cathétérisme chez les vieillards. (*France Méd.*, Par., 1879, xxvi, 106; 114; 130; 139.)
- PUEJAC, Mlle. A.—Bec-de-lièvre compliqué. (*Gas. Obst.*, Par., 1879, viii, 49-51.)
- RICHET.—Calcul vésical volumineux chez un jeune homme de 21 ans; taille prérectale; extraction du calcul et pansement de la plaie au perchlorure de fer; guérison. (*Rev. Med. Franç. et Etrang.*, Par., 1879, i, 95-101.)
- RICHET.—Fractures du maxillaire inférieur avec déchirure du périoste; complications et traitement. (*Rev. Med. Franç. et Etrang.*, Par., 1879, lix, 215-220.)
- SUENDER.—Ligadura de la arteria isquiática. Transfusion de la sangre. (*Anfiteatro Anat.*, Madrid, 1879, vii, 26.)
- STELZNER.—Die totale Resection des linken Oberkiefers. [Case.] *Jahresb. d. Gesellsch. f. Nat.-u. Heilk. in Dresd.*, Leipz., 1879, 28.)
- TEEVAN.—Impassable Stricture of the Urethra; boutonnière Operation; Good Results. (*Med. Times and Gas.*, Lond., 1879, i, 205.)

VON NUSSBAUM.—Complicirte Fractur des rechten Unterschenkels, Pseudoarthrose mit 20 Centimeter Verkürzung; Heilung durch elastische Gewichts-Extension und Zusammennageln; Operation und Verband nach Lister'schen Regeln. (*Allg. Wien. Med. Zeit.*, 1879, xxiv, 91.)

DEAKIN ON SYPHILITIC DISEASE OF THE LIVER.

—Mr. Shirley Deakin, in the *Lancet*, April 1879, p. 552, reports the case of Mr. J., aged 45, married, who had two children, aged 10 and 12 years, and who died suddenly under the following circumstances:—He was a man of sedentary habits, temperate, yet fond of good living. On December 15, 1878, as he was slightly jaundiced and constipated, although feeling quite well, he determined to take an ounce of castor oil at 6 a.m. Both children had a tablespoonful of the same oil at the same time, and suffered no subsequent ill effects. At 11 a.m. he felt gripped and in pain. At 10 p.m. he had an anodyne draught. During the night abdominal pains continued, and he died at 5 a.m., on the morning of the 16th, somewhat suddenly. At the necropsy, five hours after death, extensive syphilitic deposits were found in the liver. Three or four pints of dirty yellow fluid were found in the peritoneal cavity. The duodenum was unhealthy, and evidently ruptured through its thinned coats during life. For years Mr. J. had enjoyed capital health, which continued to within twenty-four hours of his death. None of his friends had noticed any jaundice during life. There were old but distinct scars of buboes in both groins, and a small, deeply pigmented stain, without loss of substance, on the penis.

BROOKHOUSE ON FRACTURE OF A RIB DURING

COUGHING.—Dr. Charles T. Brookhouse records in the *Lancet*, April 1879, p. 503, the case of a lady who, during a violent fit of coughing, felt something snap on the left side. Pain increased after a few days, and Dr. Brookhouse found the sixth rib fractured about two inches from the angle. [M. Poffard, *Medical Times and Gazette*, vol. ii, 1860, p. 441, reports an analogous case in a man. Dr. Chenery, *ibid.*, vol. ii, 1878, p. 88, reports another instance that occurred in a young woman, aged 23; and it is somewhat singular that the patients, both of Dr. Chenery and of Dr. Brookhouse, were within a week of their respective accouchements. A similar accident, during sneezing, is detailed in the *Glasgow Medical Journal*, April 1862, by M. Castella of Fribourg. Dr. Groninger has put on record in the *Medical Times and Gazette*, April 1861, p. 450, the case of a strong healthy labourer, aged 45, who slipping, while walking, tried to recover himself, and suddenly felt the seventh and eighth ribs on the right side snap across.—*Rep.*]

FRANKLIN ON NECROSIS OF SUPERIOR MAXILLA IN THE FOURTH WEEK OF TYPHOID.—Mr. G. C. Franklin, in the *Lancet*, April 1879, p. 553, reports the case of a child 6 years old, who died seven days after a tumour was noticed on his left cheek, which was due to necrosis of the whole of the superior maxillary bone. [Necrosis and exfoliation of portions of the upper and lower maxillary bones are by no means rare occurrences after the eruptive and other fevers. A paper by Dr. Hughlings Jackson, in the *Medical Times and Gazette*, December 1862, p. 681, explains the reasons why this complication is likely to occur. Several interesting papers are referred to in the *Medical Digest*, sections 1687-8-9.—*Rep.*]

ANNANDALE ON CURE OF SPASMODIC WRY-NECK BY EXCISION OF A PORTION OF THE SPINAL ACCESSORY NERVE.—Professor Annandale, in the *Lancet*, April 1879, p. 555, places on record another successful case, in which the above treatment was pursued. A young woman, aged 24, had suffered from spasmodic movements, rotating the head towards the left side, for three months previous to her admission into the Edinburgh Infirmary, and had been, during that period, actively treated without any good result. On the 10th of February 1878, the left spinal accessory nerve was exposed and stretched, a silk ligature being passed loosely around the nerve. Finding no improvement after twenty-four hours, the nerve was raised by the ligature and divided, and, in a few hours, it was found that the patient could move her head slowly round to the right, and keep her face looking steadily forwards. She was seen in March 1879 perfectly well, and the trapezius and sterno-cleido-mastoid muscle, on the left side, being as well developed as that on the right.

THOMPSON ON PRODUCTION OF CYSTITIS BY CONTAGION THROUGH THE USE OF INSTRUMENTS.—Sir Henry Thompson, in the *British Medical Journal*, May 1879, p. 694, reports the case of a medical man who daily passed for himself the usual silver pocket-case catheter. One day he used the instrument for a patient suffering from cystitis, and subsequently, the same day, passed it into his own bladder, having, as he believed, carefully cleansed it. Forty-four hours afterwards, not having required its use during that period, he felt chilly and his micturition was slightly painful. The next day he had some fever, no rigor, but increased temperature; his urine was cloudy and passed frequently. The day after he was confined to bed; the temperature varied from 102° to 103° for a few days, and the urine was loaded with muco-purulent deposits during one or two days. After a week he recovered, and now has nothing to complain of in relation to the urinary system. It would seem that in this case infectious matter had lodged in the screw-attachment by which the lower part of the catheter was joined to the upper portion, for, on examination, this part was found to be a little loose, a chink being left for the lodgment of putrescent matter. To render contagion by instruments impossible, Sir Henry advises, in the first instance, that all metal instruments should, after usage, be plunged in boiling-water to which a little common soda or carbolic acid has been added. All gum bougies and catheters being placed in a bath of carbolic acid. Secondly, the free application of carbolised oil (gr. x to 5) to all instruments previous to their use, as this will prevent, when combined with the first method, all risk of contagion by means of instrumental treatment. [Dr. J. C. Ogilvie Will, in a paper printed in the *Edinburgh Medical Journal*, April 1877, p. 882 (*vide Braithwaite's Retrospect*, vol. i, 1877, p. 270), regarding the use of filiform bougies, states, "It may be observed that I used carbolic oil, a practice I now invariably follow when lubricating any urethral instrument, as my friend, Mr. Chiene, has proved, to my complete satisfaction, that the danger of introducing germs into the bladder is not to be lightly regarded." In a review of Dr. Campbell Black's work on urinary diseases, that appears in the *British and Foreign Medico-Chirurgical Review*, July 1877, p. 97, the reviewer states—"Neither authority seems to be aware that, in cases where the catheter is frequently used, the decompo-

sition and alteration of previously healthy urine is actually caused by the mechanical introduction, in the catheter itself, of germs of putrefaction, bacteria—call them what you like—and can, almost with absolute certainty, be prevented by using hot water to purify the catheter and carbolised oil to grease the same."—*Rep.*]
R. NEALE, M.D.

POWELL ON LITHOTRITY BY A SINGLE OPERATION.—In the *Canadian Journal of Medical Science*, Dr. N. A. Powell relates a case of stone in the bladder of a girl, 5 years old, in which, under ether, he crushed and removed in one hour and a quarter the entire stone, the fragments of which weighed 241 grains. The child recovered, and, at the end of five weeks, was reported well.

[This case is interesting; but, as the author brings it forward as illustrating Dr. Bigelow's theory that the human bladder will bear with safety much more instrumentation and prolonged manipulation than hitherto it has been thought capable of doing, it must be pointed out that any experience drawn from operating upon the bladders of women and children is not altogether applicable to the surgery of the adult male bladder.—*Rep.*]

G. BUCKSTON BROWNE.

BOECKEL ON RETROPHARYNGEAL GOITRE AND ITS EXTIRPATION.—In a memoir presented to the Society of Surgery of Paris, April 9, M. Boeckel describes the remarkable case of a patient, aged 25, who presented a voluminous tumour at the right side of the neck, at the same time the pharyngeal tumour interfered with swallowing. The disease was of three years' date. In November 1878 swallowing was difficult, but breathing remained free. The tumour of the neck was of the size of an apple, that of the pharynx was of the size of a nut. The pharyngeal mucous membrane preserved its mobility; the two lobes were fluctuating without either pulsation or expansion; no pain; no fever. The movements of the head were interfered with. M. Boeckel diagnosed cysts of the thyroid, and exploratory puncture, made on December 7, gave issue to a brownish fluid; the pharyngeal tumour did not become emptied. Extirpation was performed on December 9, with Listerian precautions. The patient was anæsthetised. An incision was made along the anterior border of the right sternomastoid muscle; the vessels were divided between two catgut ligatures. The pouch was gradually dragged out; the retropharyngeal cyst was emptied and easily separated from the neighbouring parts. A drain was applied, and the wound was sutured in four-fifths of its extent. The cervical cyst had the appearance of a piece of placenta; the walls of the pharyngeal cyst were thinner. Beckling, however, examined the specimen, and satisfied himself that the cysts were made all of thyroid tissue. The patient was cured on Jan. 6, 1879.

AEPLI ON NEURALGIA OF THE INFRAORBITAL BRANCH OF THE TRIFACIAL NERVE CURED BY LÜCKE'S OPERATION.—The following case was published in the *Deutsche Zeitschr. f. Chir.*, Band xi, Heft 1 and 2, by Dr. Aepli. The patient, a stonemason, aged 68, had been suffering for fourteen years from facial neuralgia, which he attributed to a violent cold. The pain was principally located in the region of the left infraorbital nerve; it lasted generally from 30 to 60 seconds, and vanished suddenly, to reappear after a longer or shorter interval.

The patient's health was generally good. The paroxysms of pain recurred more and more frequently; sometimes ninety times in twenty-four hours, and became so intense, in spite of all the remedies employed, that it was decided to make the resection of the left infraorbital nerve (Wagner's method). The piece which had been excised was four centimètres long, and the sensibility in the region between the eye and the mouth was totally extinct on that side. Eight months later the patient again presented himself, this time suffering from neuralgia of the right infraorbital nerve, the left side having remained free from pain. Neurectomy was afterwards performed on the right side, but the second operation did not prove as successful as the first, as the patient began to complain of the pain two months subsequently in both sides of the face. It was then decided to attempt a third operation, this time by Lücke's method, *i.e.*, temporary resection of the zygomatic bone. In consequence, however, of the previous operations, it was not easy to find the nerve, so that only small pieces could be excised. The wound was treated antiseptically, and a drainage-tube put in; on the fourth day, the patient had a few slight attacks, after which, he was completely cured.

BAUM ON NERVE-STRETCHING.—A case of convulsions of the face, which was cured by stretching the facial nerve, is related in No. 40 of the *Berl. Klin. Woch.*, 1878, by Dr. Baum. The patient, a woman, aged 35, who had previously had a few epileptiform attacks, became subject to convulsive twitchings of the muscles of the left side of her face. They lasted generally for one minute at a time, and were repeated every two or three minutes. Finding that all the remedies used, and even the galvanic current, were of no avail, the author resolved to try whether nerve-stretching would prove successful. He accordingly laid bare the facial nerve near the stylomastoid foramen, and seizing it roughly with a pair of forceps, he lifted the nerve from the surrounding tissue. The left side of the face was paralysed for about half an hour, after which sensibility had returned, and the convulsions disappeared. The author ascribes a part of his success to the squeezing of the nerve, and points out that there is no danger of paralysis, as the latter, even if it should occur, is transitory.

TORRÈS ON RENAL CALCULUS AND NEPHROTOMY.—The author, in his *Thèse de Paris*, 1878, has taken special pains in describing the symptoms and the diagnosis of this affection. Speaking only of very complete and thorough observations, M. Torrès has found that, out of 78 cases, in 14 the diagnosis was easy, in 29 probable, in 20 difficult, and, in 15 only, impossible. In half of the cases it would, therefore, be comparatively easy to make a precise diagnosis, which is highly important if M. Torrès' treatment of the affection should be adopted. He extirpates the kidney, for which purpose he has invented a new method and two new instruments, the nephrolithotome, and the nephrothermocautery.

GUEBHARDT.—CONTRIBUTIONS TO THE STUDY OF TUBERCULOUS CYSTITIS (*Étude sur la Cystite Tuberculeuse*, Paris, 1878. A. Delahaye).—These contributions are based on the study of 33 cases of tuberculous cystitis which, for the greater part, were made at the hospital Necker under Professor Guyon. The author holds that there exist two principal

classes of tuberculous cystitis: a primary one, which is not preceded by tubercles in any other organ; and a secondary one, which follows immediately upon tuberculosis of the lungs or the genital organs, and hastens the end. The first class can often remain confined for a certain time to the bladder without spreading to the rest of the organism, and then attack either the genito-urinary tract, or any other organ. The author insists especially on the difference between what is termed urinary tuberculosis, and genito-urinary tuberculosis. The latter is often met with, while the former is more rare and localised in the bladder, urethra, and the kidneys, without spreading to the genital organs. At the *post mortem* examinations, granulations, which are first grey, then yellow, are always found in the bladder, as well as characteristic ulcerations, either isolated or in groups, of various sizes. These lesions always begin at the neck of the bladder, and spread thence into the urethra, the prostatic gland, the ureters, and the kidneys. The pain is sometimes almost excruciating, and often takes the form of neuralgia; other symptoms are urethral and vesical spasms and hæmaturia. Although these phenomena are not pathognomonic, still they may often help towards making a diagnosis in most of the cases. The treatment consists in painting the neck of the bladder with a weak solution of nitrate of silver.

MORDRET.—OBSERVATIONS ON A FEW CASES OF LUXATIONS AND FRACTURES IN LUNATIC PATIENTS.—The author says himself (*Soc. de Chir. Rev. Méd. Franç.*, March 1, 1879) that he has not been able to collect a sufficient number of facts to enable him to make any decisive conclusions; but he sets forth a few interesting remarks on the propensity which seems to exist in maniacs for certain luxations and fractures, especially fractures of the neck of the femur. Luxations and fractures do not occur quite so often in asylums as might perhaps be expected, because of the strict watch which is maintained over them. Still, fractures caused by a fall are unavoidable, in spite of the most careful supervision. Lunatics generally recover soon from the effects of the most various traumatic lesions, as the latter seldom give rise to any serious symptoms. A great number of cases have been observed where there has been no fever, neither any cerebral symptoms, and this may be ascribed in great part to the indifference of the patients, who are unconscious of the extent of the injury they have received. Old paralytic patients seem, however, to have a greater predisposition to fractures. Could this be due to the circumstance that their osseous tissue has a greater tendency to become brittle, owing to the alterations which the nervous centres must have undergone during a long time?

M. Mordret mentions five observations of fractures of the neck of the femur which occurred in comparatively young patients, one of whom was not 32 years old. Does this infer that mania predisposes to fractures by anticipating the effects of old age on the skeleton? This would be a very interesting point to follow up and study more thoroughly. It seems as if patients with dementia paralytica often sustained fractures merely by a simple fall, while maniacs and epileptics sometimes fall from a great height or with great force without breaking any bones. It must, however, not be forgotten, that the motor troubles which are peculiar to this affection take a prominent part in causing these accidents, which do not occur very often after all.

The treatment is the same as in sensible patients, and generally attended with the same results. Great care must, however, be taken not to frighten them by a great display of instruments and apparatus of which they do not comprehend the use. The simpler the mode of treatment the better it is.

BERGMANN ON THE TREATMENT OF GUN-SHOT WOUNDS OF THE KNEE-JOINT IN TIME OF WAR.—The author, who was consulting-surgeon in the Russian army on the Danube (*Centralbl.*, No. 18, May 13), had ample opportunity of testing the superiority of the new methods of treating wounds during the war. He confines himself, however, to speaking of gun-shot wounds of the knee-joint, which have hitherto yielded very unsatisfactory results. Thus, during the American war, out of 1000 shot wounds of the elbow-joint, 194 proved fatal, while 837 out of 1000 gun-shot wounds in the knee-joint, were followed by the same result. The author was soon obliged to abstain from a strict antiseptic treatment, as all the conditions necessary to make this treatment successful were wanting; there were hardly any beds to be had, and the wounded lay mostly on the floor. Herr Bergmann therefore restricted himself to the most simple process of antiseptic dressing, using antiseptic material for the purpose of absorbing the secretions of the wound. This was done in the following way: as soon as possible after the wound had been inflicted, the vicinity of the spot where the shot had penetrated was cleansed, then the whole limb was wrapped in a thick layer of antiseptic cotton-wool, the latter firmly pressed down by means of an elastic bandage, and the whole, including the ankle and hip-joint, imbedded in plaster-of-Paris, and allowed to remain undisturbed for a fortnight or more. In some cases the first application of this dressing sufficed to promote the healing of the cutaneous wounds. The author's pamphlet (published in Stuttgart, 1878) also contains two tables of gun-shot wounds in the knee; the first contains all the lesions of the knee which were received into the hospitals at Piätra and Simnitzelli, fifty-nine cases in all, thirty of which were cured, two only after a secondary amputation, five were dismissed with doubtful results as to their being cured, and twenty-four died (44.5 per cent.). This is a by far better result than has been obtained in former wars under much better conditions. If we analyse the cases, we find that out of the twenty-eight cases which were cured without amputation, only in one a considerable suppuration set in, whilst all the others were healed almost without suppuration. Wherever the latter set in, the chances of recovery decreased very rapidly, whether the limb was amputated or not; although it was in no wise strictly limited to the severer wounds. In five cases out of twenty-three which healed rapidly, the capsules had been affected; in several of the other cases, other bones had suffered. Two of the patients who had been cured, died sometime after, of intercurrent diseases. At the necropsy, it was found that in one case a fragment of bone had grown into the insertion of the crucial ligaments, and several small pieces of cloth were found in the other patient's wounds. This mode of treatment of smaller gun-shot wounds, by keeping the limb immovable, and allowing the wound to heal under the eschar, will be followed by more favourable results if the wound has come under treatment at an early stage, and before the sanguineous infiltrations which have penetrated into the intermuscular connective tissue

begin to decompose. The second table contains a list of fifteen cases which were treated in this way, only one of which died of pyæmia (6.6 per cent.). These favourable results speak for themselves, and there can be no doubt, that this method of treatment will hereafter take a prominent place in field surgery.

PATHOLOGY.

RECENT PAPERS.

- APHEL, F.—L'Epoca Critica. (*Gior. Internas. d. sc. Med.*, Napoli, 1879, n. s., i, 19-26.)
 DROSDOFF.—Untersuchungen über die Elektrische Reizbarkeit der Haut bei Gesunden und Kranken. (*Arch. f. Psychiat.*, Berl., 1879, ix, 203-232.)
 EICHHORST, H.—Die Veränderungen der Quergestreiften Muskeln bei Vögeln in Folge von Inanition. (*Centralbl. f. d. Med. Wissensch.*, Berl., 1879, xvii, 161-163.)
 EVERETT, J. T.—Studies in Relation to the Production of Pain by Weather. (*Chicago M. J. and Exam.*, 1879, xxxviii, 253-260.)
 FAZIO, E.—Le Trasmissioni Ereditarie. (*Gior. d. Soc. Ital. d'ig.*, Milano, 1879, i, 14-45.)
 KLEBS, E.—Der Micrococcus der Variola und Vaccine. (*Arch. f. Exper. Path. u. Pharmacol.*, Leipz., 1879, x, 222-227, 2 pl.)

ORTILLE ON NERVOUS DYSPNŒA IN NEPHRITIS.—The author (*Bull. Général de Thérap.*, No. 6, March 30) has divided this interesting pamphlet into two parts. The first is devoted to the clinical side of the question. Dyspnœa is one of the symptoms of uræmia, it occurs in a two-fold form: an acute form, characterised by attacks which often cause death, and a chronic form, which is complicated by paroxysms. The former is evidently of nervous origin. The second has been attributed to cardio-pulmonary troubles; this explanation is unsatisfactory, because the intensity of dyspnœa does not depend upon lesions of the heart and the lungs; another explanation given was the asphyctic state of the blood, but the experiments related in the second part of this work, show that the blood is not asphyctic. It results, therefore, that in these two forms of dyspnœa, the nervous element is the principal, if not the only cause of the respiratory troubles. This nervous dyspnœa is recognised:—1. By the frequent occurrence of uræmic vomiting. 2. By the negative results obtained by auscultation of the lungs and the heart. 3. By its intensity. 4. By the constant fall of the temperature. 5. By the presence of albumen in the urine. The following are the therapeutic indications: sub-cutaneous injections of chlorhydrate of morphia will prove useful in paroxysms of dyspnœa; against the uræmic intoxication, the author recommends diaphoretics, especially chlorhydrate of pilocarpine, in subcutaneous injections of 2½ centigrammes, and diuretics, among which phosphate of zinc has proved particularly efficient. In the second part, the author describes his experiments. By cutting out the kidneys in dogs, or by tying their ureters, they were placed in the conditions favourable to the development of uræmia, and all the characteristic symptoms of this affection were subsequently observed in them. The blood of these animals having been analysed at different times, the results were as follows: It contained a normal proportion of

oxygen and carbonic acid, and could therefore not be said to be asphyctic; neither could it be the cause of the uræmic dyspnoea. Ammonia was constantly present in the intestines, but not always in the blood; this would prove that when it is found in the blood it is only there secondarily, and not as Frerichs would have it, the cause of uræmic accidents. As neither the amount of urea, nor the excess of extractive matter contained in the blood, suffices to explain the symptoms of uræmia, its explanation must be sought in the state of the tissues. The blood, which has not been sufficiently purified, does not adequately nourish the tissues of the body, the result being a state of starvation, which manifests itself in the nervous system by special functional troubles, such as dyspnoea, coma, delirium, convulsions—in short, all the symptoms of uræmia. The latter should therefore no longer be considered as a laxated state, but as cachexia.

LICHTHEIM ON ATELECTASIS PULMONUM.—After a very thorough critical review of the different hypotheses which have hitherto prevailed on the etiology of acquired atelectasis, the author details his own experiments (*Arch. f. Exp. Path. and Pharm.*, Band x, and *Prager Med. Woch.*, March 26, 1879). They were undertaken in accordance with Traube's directions, with the exception that the author replaced the rolls of paper used by Traube for the purpose of stopping up the alveoli by small tents of laminaria, which he introduced into a bronchus through the tracheal wound, as he considered them more effectual in keeping out the air. After the operation, the circumscribed portion of the lungs was found to be quite atelectatic, the animals dying in the course of the following twenty-four or forty-eight hours with all the symptoms of acute dyspnoea, which had set in immediately after the operation, and was owing to the acute compensatory inflation of the remainder of the lung, which in some cases even caused pneumothorax by the bursting of some alveoli.

In a second series of experiments, where one of the bronchi was ligatured in the pleuritic cavity, the animals lived longer, the lung was atelectatic, presented inflammatory changes, and was imbedded in a layer of tough pus.

For the purpose of elucidating the question whether the air contained in a portion of the lung which had thus been circumscribed could be absorbed by the blood or not, Lichtheim ligatured the corresponding pulmonary artery and veins. He thought that absorption could only be carried out as long as the circulation remained uninterrupted, but he was disappointed in finding that, twenty-four hours after the operation, the lung had increased in size, and contained a great quantity of frothy serum, slightly tinged with blood. The blood could only have penetrated into the lungs through the branches which the art. med. pericard. and the art. œsophag. send to this organ. This unexpected difficulty entirely suspending the circulation in one lung made Lichtheim try another method. He decided no longer to submit the absorbing fluid, but the absorbing gas, to voluntary alterations. This experiment was preceded by another, by which he endeavoured to ascertain the rapidity with which the air was absorbed by the portion of the lung which had been thus separated. He found that the mean time of absorption was about three hours, the shortest time was two and a half hours, and the longest four hours. In a similar way he tried to calculate how much time was needed for the absorption of each of the

constituents of the atmospheric air. This was done by introducing a cannula into one bronchus of the lung in question, thus bringing the gas which was being experimented with into contact with the lung, while the other half of the organ was left undisturbed. It was then found that the oxygen and carbonic acid disappeared much more rapidly than atmospheric air, and nitrogen much more slowly than the latter, from the circumscribed portion of the lung. In order to explain one of the principal conditions of absorption, viz., the increased tension of the gas during the process within the separated lung, Lichtheim assumes "that the elasticity of the pulmonary tissue cannot be satisfied until the last air vesicle has been expelled". Lichtheim ascribes the atelectatic condition of the lung which is often met with, both while the organ is still within the thorax and after it has been removed, to an exchange of gas, which takes place through the wall of the alveoli between the air contained in the latter and the outer atmosphere; here the tension of the air in the lungs, which is heightened through the elasticity of the alveoli, plays a most important part.

In the last part of his work the author tries to explain in what way the atelectatic condition of the human lung is brought about. This condition is met with in children suffering from bronchitis, where one portion of the lung is often rendered atelectatic through the accumulation of mucus in the bronchi, and debility of the respiratory muscles; or, in croup, where the bronchi are always found filled with mucus and fibrinous clots at the *post mortem* examinations. Lichtheim also classifies under the head of atelectasis that form of the affection which is observed in pleuritic exudations and restricted to that part of the lung which is beneath the level of the liquid. It must, however, be borne in mind, that this is only the case in less voluminous exudations and transudations, where, although the pressure exercised on the fluid can be much lower than the atmospheric pressure, yet the portion of the lung which dips into it is empty of air, tough, not bloodless, but of a dark colour. Here we cannot speak of a compression as we would in the case of exudations that are under high pressure; but this condition of the lung is simply owing to the fact that the air contained in the portion of the lung which is beneath the level of the liquid, can no longer be renewed, as the lung no longer is able to follow the inspiratory movements of the thorax, and it must, therefore, be absorbed.

PREISENDÖRFER ON A CASE OF COMPLETE OBLITERATION OF THE ARTERIA ANONYMA, AND NEARLY COMPLETE OBLITERATION OF THE LEFT CAROTID AND SUBCLAVIAN ARTERY, COMPLICATED WITH AN ANEURISM OF THE AORTA AND CANCER OF THE ŒSOPHAGUS.—This title sufficiently indicates the different lesions met with at the autopsy of this case. The patient (*Arch. f. Path. Anat. und Phys.*, vol. lxxiii, page 594), aged 45, had complained chiefly of difficulties in deglutition, owing to a cancer in the œsophagus, from which he died; the other lesions not having caused him any special inconvenience. The physical examination had however revealed three suspicious symptoms: dulness of the superior sternal region, a slight bruit along the sternum, and a remarkably small pulse of the upper compared to that of the lower extremities; but still these symptoms were not grave enough to admit of a positive diagnosis, or to lead to suspicion of the remarkable obliterations of the arteries mentioned above. These

cases are very rare, and must probably be ascribed either to a congenital vitium or to an obliterating arteriosclerosis. A similar preparation exists in the museum at Cologne, and Riegel also met with a patient who was suffering from the same affection.

RAUB ON A CASE OF ATRESIA OF THE PULMONARY ARTERY WITH ATROPHY OF THE RIGHT VENTRICLE.—The author (*Med. Jahrb.*, Heft 3, 1878) observed a remarkable anomaly of the right heart in a female child, aged 29 days, who showed symptoms of cyanosis. The right auricle is considerably dilated, the auriculo-ventricular opening is very narrow, and the valves are rudimentary and fixed to the wall of the ventricle. The right ventricle is exceedingly atrophic, and could scarcely hold a small lentil in its cavity. It contains a depression of the size of a millet grain, which is the rudimentary infundibulum. There is complete atresia of the pulmonary artery; and the valves of the latter vessel, which is very narrow at its opening, are only indicated by almost invisible folds. The left auricle is normal, and the ventricle comparatively voluminous. The intra-ventricular partition exists, the foramen Botalli is of normal dimension; a little underneath is a small opening of the size of a pin's head. The arterial duct springs from the left branch of the pulmonary artery, about 4 millimètres beyond the bifurcation. The most remarkable point in this case is the absence of the lesions which have often been observed coincidently with strictures or atresie of the pulmonary artery. Another fact which deserves to be noticed is the atrophy of the right ventricle. The blood of the venæ cavæ met with an obstacle on entering the ventricle on a level with the strictured auriculo-ventricular opening; it succeeded in dilating the right auricle, thereby penetrating into the left heart through the foramen Botalli. Rokitsansky was the first to describe this mechanism, and to show that the inverted conditions produce the dilatation of the right ventricle which is generally met with in atresia of the pulmonary artery.

CHATEAUFORT.—CONTRIBUTIONS TO THE STUDY OF TUBERCULOUS SPINAL MENINGITIS.—The author, after having summed up the few cases of this special form of tuberculous meningitis which have been published, arrives at the following conclusions: (*Thèse de Paris*, 1878) Lesions of the spinal meninges are met with in the majority of, if not in every, case of tuberculous meningitis. Generally the cerebral meningitis is the predominant affection, and the spinal meningitis is an epiphenomenon which is seldom recognised; in some cases, however, the spinal accidents precede the cerebral symptoms. From an anatomical point of view, both cases are identical with the tuberculous infiltrations of the coats of the brain, which cause a softening of the convolutions. To these correspond analogous infiltrations which give rise to diffuse or circumscribed myelitis. The following are the symptoms which have been most frequently observed in this affection: disturbances of the sensibility, characterised by radiating pains, cutaneous hyperæsthesia alternating with disseminated anæsthetic spots. At the same time, or a little later, there occur motor troubles, spasms, and contractions, ultimately succeeded by paresis or true paraplegia. As in cases of paraplegia due to transverse myelitis, we here meet troubles of micturition, retention or incontinence of urine, constipation, or escharæ. Although it is often very difficult to discern in the course of tuberculous meningitis to what extent the

brain and the spinal cord are affected, still it is possible in some cases to be sure of the existence of granulations on the spinal marrow, and in almost every case to suspect it. Tuberculous spinal meningitis has no peculiar etiology, nor does it differ from cerebral meningitis in its evolution; it is almost always accompanied by cerebrospinal tuberculosis. Hitherto this affection does not seem ever to have been cured; it is, however, probable that spinal meningitis, as well as cerebral meningitis, may be arrested in its development.

PREISENDÖRFER ON THE GENESIS OF THE DOUBLE SOUND IN THE CRURAL ARTERY.—The author draws attention (*Berl. Klin. Woch.*, 1879; and *Med. Chir. Rundschau*, April 1879) to one of the causes of a purely arterial double sound, which has hitherto escaped observation. He noticed it in a man, aged 44, who was suffering from cardiac insufficiency, while the valves of the heart had remained healthy. A regular series of strong pulsations, alternating with weaker ones, could be felt at the radial artery (pulsus bigeminus); the frequency being sixty-four double pulsations in a minute. If the crural artery was auscultated without pressing upon it, a distinct double sound could be heard, which corresponded to the radial pulsations, and changed into a distinct double bruit when the artery was pressed down with the stethoscope. The patient left the hospital after a six weeks' stay, apparently much better, but came back in a fortnight in a very bad condition. The pulse still remained regular, in spite of the increased venous symptoms; but the double sound on the crural artery could not be heard this time. It would result from this observation that a pulsus bigeminus is able to give rise to the phenomenon of double sound in the crural artery, which phenomenon proves that the vascular walls still possess a comparatively normal elasticity, and that the pulsations are still relatively rapid and strong. It is clear that these double sounds may occur in the most various rhythms, and that many cases of double sounds in the crural artery could be explained in the same manner.

EICHLER.—CONTRIBUTIONS TO THE ETIOLOGY OF HÆMORRHAGES IN THE BRAIN.—The following are the conclusions at which the author has arrived (*Deut. Archiv für Kl. Med.*, Bd. 22, Heft 1; and *Med. Chir. Rundschau*, April 1879): 1. Primary idiopathic cerebral hæmorrhage is caused by the bursting of miliary aneurisms. 2. Miliary aneurisms are in reality true spontaneous aneurisms. 3. They owe their existence to chronic endarteritis, which is identical with arterial sclerosis. 4. Both miliary aneurisms and arterial sclerosis are an essentially senile affection. 5. Dissociating aneurisms must be carefully distinguished from miliary aneurisms. They are simply hæmatomata of the coat of the vessel, and never the cause but the result of a hæmorrhage. 6. Similarly capillary ectasies must be separated from miliary aneurisms. The former may be compared to the telangiectasis which occurs in other places; both affections may be congenital. 7. The walls of the intracerebral arteries consist only of three layers; the inner and middle layer, and an external layer which is separated from the muscular layer by a lymphatic space.

BERNHARDT ON NEUROPATHOLOGICAL AFFECTIONS.—The author publishes the result of his researches during the two last years, on peripheral

paralysis, in the *Deut. Arch. f. Klin. Med.*, xxi, page 362. Among the several cases of saturnine paralysis quoted by him, the most interesting are:—1. A typical case of paralysis of the extensor muscles on the left hand of a left-handed patient. 2. A case of affection of the supinator muscles. 3. A case of paralysis in a painter, which might easily have been mistaken for saturnine paralysis. A case of paralysis of the radial nerve is also mentioned which was caused by a violent stretching of the muscles; and a case of paralysis of the ulnar nerve, which came on after typhoid fever. He then quotes a case in which all the nerves of the arm were paralysed; two cases of paralysis of the sciatic nerve and its branches which followed after a neuritis of the nerve, and goes on to speak of the nature of inveterate serious or cured paralysis of the facial nerve. Concerning the accompanying twitching, which is often observed in old cases of paralysis of the facial nerve, the author strongly opposes Hitzig's views on the subject. Hitzig believes that the division of certain peripheral motor nerves causes a peculiar condition of irritation in corresponding motor parts of the central nervous system. Bernhardt attributes that condition of irritation to a propagation of the stimulus from the nervous centres to the neighbouring ganglionic centres of the other muscles of the same region.

PHYSIOLOGY.

RECENT PAPERS.

1. BEAUREGARD, H.—Contribution to the Study of Visual Purple. (*Journal de l'Anat. et de la Physiol.*, March and April 1879.)
2. BERT, PAUL.—Extirpation of One Cerebral Hemisphere without after-consequences. (Reported in *Le Progrès Médical*, March 1879.)
3. BONNAL, L. A.—Animal Heat. (*Rev. Mens. de Méd. et de Chir.*, March 10, 1879.)
4. DEMANT, R.—Action of the Succus Entericus in Man. (*Centralblatt f. Med. Wiss.*, February 15, 1879.)
5. DURET.—Function of the Cerebro-Spinal Fluid. (*Rev. Méd. Franc. et Etrang.*, March 22, 1879.)
6. ENGELMANN.—The Stimulation of Contractile Protoplasm on its Sudden Exposure to Light. (*Pflüger's Archiv. f. die Gesam. Physiol.*, Bd. xix, Heft i.)
7. FLEISCHMANN.—The Physiological Action of Oil of Turpentine. (*Würzburger Phys. Med., Verh.* xii, p. 111; reported in *Centralblatt f. d. Med. Wiss.*, Jan. 25, 1879.)
8. HAYEM.—Origin of Hæmatoblasts and the Formation of Red Blood Corpuscles. (*Soc. de Biol., Séance du 22 Mars*; reported in *Le Progrès Médical*, March 29, 1879.)
9. HEGER, PAUL.—Critical and Experimental Studies on the Emigration of Blood Corpuscles in Relation to Inflammation. (*Gaz. des Hôpitaux*, No. 34, March 22, 1879.)
10. HOPPE-SEYLER.—Further Contributions to the Colouring Materials of the Blood. (*Zeitschrift für Physiol. Chemie.*, ii, p. 148; abstract in *Centralblatt f. Med. Wiss.*, January 25, 1879.)
11. MUSCULUS, F., and J. DE MERING.—The Action of Diastase, Saliva, and Pancreatin upon Starch and Glycogen. (*Acad. des Sci.*, January 13, 1879; reported in *Arch. Gen. de Méd.*, March 1879.)
12. PICARD.—The Amount of Urea in the Tissues. (*Acad. des Sci.*, Dec. 16, 1878; reported in the *Arch. Gen. de Méd.*, February 19, 1879.)

1. *Contribution to the Study of the Visual Purple.*—M. Beauregard is unable to agree with the theory.

put forward by Boll as to the source of the regeneration of the visual purple. But from a number of observations which he has made, he finds that no yellow globules were visible in the epithelium of the retinas of frogs which had been kept in complete darkness for a week, and whose eyes had then been prepared by monochromatic light. But, on the contrary, a bright colourless body occupied the centre of each pigment-cell of the epithelium; this body was smaller than the yellow corpuscles of the normal retina, their size being rather comparable with the yellow globules found in the cones of birds' eyes; occasionally a few very small globules tinged slightly yellow, were noticed. In the retinas of frogs exposed for several days to ordinary light, after they had been shut up in a dark chamber, the pigment contained a great number of yellow globules intermingled with others which were uncoloured. The coloured globules were of two kinds, some large like the ordinary globules, and the rest much smaller. The conclusion at which M. Beauregard therefore arrives is that the yellow globules disappear in darkness, but are reformed under the influence of light, an exactly contrary phenomenon to that which occurs in relation to the visual purple. The author has been unable to obtain any optograms with the eyes of birds, but he has made the following observations in regard to the retinas of white pigeons. The whole of the posterior portion of the retina, which appears to be deeply coloured to the naked eye, consists in reality of transparent pointed cones, the red colour being due partly to red globules, partly to a red colour developed in the bodies of the cones themselves. Amongst the cones are found numerous transparent and highly refracting rods, which may be distinguished by their shape, and by the absence of coloured globules. This intermingling of rods and cones is found in those parts of the retina which are chamois-coloured. The inferior and lateral portions of the retina, which are of a paler colour than the other parts, are found on microscopical examination to contain a very large number of cones, each enclosing a yellow globule. Of these there are two kinds, one of a bright golden yellow colour, the others of a pale greenish-yellow. In these parts also, and more especially towards the edges of the retina, a great number of rods as well as double cones are to be observed, each cone containing two coloured globules.

2. *Extirpation of one Cerebral Hemisphere without after-consequences.*—M. Paul Bert showed four axolotls, two white and two black, which were in apparently good health. Six months since, he removed a cerebral hemisphere from each of them. These batrachia, which live in water, had not exhibited any disturbance of the vascular system. A corresponding experiment upon a bat had been likewise attended with negative results. M. Paul Bert has made some curious observations in regard to his axolotls. Shortly after the operation the white axolotls became covered with black spots, whilst the black ones assumed a speckled appearance. This condition of the cutaneous pigment disappeared at a later period.

3. *Animal Heat.*—Dr. Bonnal sums up our knowledge of animal heat in the following propositions: 1. The temperature being equal, dry air is borne more readily than moist air. 2. The capability of resisting heat is greater when the head is outside the stove, than when it is within it. The toleration of heat is greatest when the head alone is in the stove. 3. Evaporation increases the toleration of

the organism for heat. 4. Evaporation kept up for a sufficient length of time by wetting the body of the animal, causes a diminution of the body temperature, and is capable of producing death. 5. The physiological phenomena observable in these cases are: increase of the pulse rate, and of the respiratory movements; feebleness, which increases progressively; agitation amounting to convulsions; increase of the body temperature. 6. The action of heat is exerted first upon afferent nerves, in which it produces anæsthesia, and then upon muscles, which it kills like ordinary poisons. Its action upon afferent nerves is inappreciable. 7. Warm-blooded animals plunged into a medium of higher temperature than their own, whatever may be the method of application of the heat, die in a longer or shorter time, dependent upon their size, and the class, family, or species to which they belong. 8. It is stated that at death there is a constant increase of the temperature, amounting to 6.7° Cent., a decrease in the weight, an almost entire destruction of the irritability of the heart and intestines, and a diminution of that of the muscles of animal life. The blood in the arteries and veins is dark in colour, and there are ecchymoses of the skin, whilst infiltration of blood takes place into all the organs. The experiments which Dr. Bonnal has made do not altogether agree with some of these propositions, as will be seen in a forthcoming paper.

4. *Action of the Succus Entericus in Man.*—Dr. Bernhard Demant has had an opportunity of studying the secretion and action of the succus entericus in the human subject. The patient, who had been badly operated on for hernia, had a large fistula at the lower part of his small intestine, which was so situated that the alimentary canal was completely divided into two parts; of these, the upper portion communicated with the stomach, whilst the lower part, which secreted the pure juice, terminated as usual in the rectum. With the succus entericus thus obtained, the author has performed many artificial digestions with the following results. The secretion obtained from the intestine of man is a thin clear fluid with a strongly alkaline reaction. Its secretion generally takes place in small quantities; during digestion, however, more is formed than at other times, and at night it ceases to be secreted. Aperients have no influence upon the secretion, either as regards its nature or its digestive power. The succus entericus contains no peptic (albumin digesting) ferment, and it has no influence upon the various forms of proteid materials, such as boiled fibrin and albumen, casein, vegetable fibrin, and legumin. Starch is converted by it into grape sugar; cane sugar is changed into grape sugar. Inulin, however, which has been proposed for diabetic patients as a substitute for bread, is not converted, by digesting with this juice, into grape sugar. Fats containing free fatty acids are emulsified, but neutral fats remain unacted upon. Dr. Demant promises to publish a further account of these important researches into the nature of a secretion which has given rise to so much controversy, in a future number of Virchow's *Archiv*.

5. *Function of the Cerebro-Spinal Fluid.*—In a thesis read by M. Duret last year, an attempt was made to explain the phenomena of cerebral disturbance by the shock of the cerebro-spinal fluid against the floor of the fourth ventricle. Applying this theory to the particular case of intraventricular central hæmorrhage, M. Duret stated that the resulting contraction or general tetanus is either due

to the reflux of the cerebro-spinal fluid, and to the shock experienced by the restiform bodies, or to the direct stimulation of the blood which finds its way into the ventricle of the medulla through the aqueduct of Sylvius. This theory has been opposed very strongly by MM. Cossy and Bochefontaine, who base their arguments on the theory that M. Duret's experiments were not properly performed, and were inaccurate. At a subsequent debate in the Société de Biologie, M. Bochefontaine stated that he had examined with the greatest care the brains of several dogs. From observations thus made he believes that the fourth ventricle is not, as is generally believed, hollow. It is composed of two closely approximated surfaces united by a cellular membrane containing blood-vessels. This membrane is common to the posterior thirds of the two surfaces. In the dog, the upper part of the fourth ventricle is closed by a membrane which passes from the medulla to the cerebellum. There is, however, no communication between the fourth ventricle and the subarachnoid space of the spinal meninges. The foramen described by Majendie does not exist. This arrangement of parts, M. Bochefontaine thinks, is opposed to the flow of cerebro-spinal fluid from the ventricles into the spinal canal. M. Duret considers however that this description is inaccurate.

6. *The Influence of Light on the Contraction of Protoplasm.*—Professor Engelmann finds that a strong light brought to bear suddenly upon living protoplasm acts as an energetic stimulus. He has experimented with a low form of animal life, the pelomyxa palustris, one of the protozoa. This organism, measuring only $\frac{1}{4}$ -1 millimetre in diameter, puts out processes like an amœba, the processes becoming gradually larger from the passage into them of a quantity of granular protoplasm. In this manner movement of the entire body is effected. He found that if this organism was screened from light by interposing the hand it underwent certain changes, assuming a pyriform shape, whilst a considerable streaming of the protoplasm occurred into the anterior thick extremity, the movements of locomotion being at the same time very lively. On removing the hand, the streaming of the protoplasm suddenly ceased, and the pelomyxa contracted itself, as if it had been stimulated by an electric shock, and thus no further locomotion could take place. This change happened within a few seconds. On making this discovery as to the stimulating effects of sudden illumination, Professor Engelmann proceeded to inquire whether gradual increase in the amount of light produced the same phenomena. He found, however, that the movements went on uninterruptedly, and that light when gradually increased had no effect in causing stimulation. In the same way sudden darkening was without result on the protoplasm.

7. *Physiological Action of Oil of Turpentine.*—Dr. Fleischmann has undertaken with Rosbach some fresh experiments in regard to the action of oil of turpentine from a physiological standpoint. When this substance is injected directly into the blood, the author finds that it causes severe dyspnœa, cramps, lowering of the arterial blood-pressure, and increase of the pulse-beat, denoting paralysis of the central end of the vagus. The pulse-wave is at the same time very low, and entirely disappears before death. These symptoms, which have been already noticed by previous investigators, depend upon pulmonary embolism, which the general action of the drug renders inappreciable to the ordinary observer.

Subcutaneous injections cause local pain, as is shown by the frequent movements of the animals. Oil of turpentine, largely diluted with water and ingested, gives rise to no symptoms of stimulation, but merely to appearances of paralysis. Frogs, after a subcutaneous injection of two drops of pure oil of turpentine, lost the power of voluntary movement, though the irritability of the nerves and of the voluntary muscles still remained intact. A rabbit into whose stomach 12.0 of oil of turpentine with 18.0 of water, in the form of an emulsion, were passed by a catheter, lost the power of voluntary movement in fifteen minutes, reflex paralysis then occurred, and death took place in two and three quarter hours with clonic spasms. In kittens, oil of turpentine paralysed first the cerebral functions, and later the reflex irritability.

8. *The Formation of Red Blood-Corpuscles.*—M. Hayem continues his researches into the origin of red blood-corpuscles. He believes that it is now a matter of certainty that the white corpuscles do not become converted directly into red corpuscles. The investigations have been carried on chiefly with normal blood, but at a later period with the so-called blood vascular organs. In the cat and in the dog the lymphatic glands of the mesentery and neck contain lymph in which hæmatoblasts are found. The hæmatoblasts are small corpuscles whose function it is to become red corpuscles. When these bodies are treated with such colouring agents as irosin and pirosin they stain deeply. In the thoracic duct also the hæmatoblasts exist in large numbers, and they are in that situation surrounded by hæmoglobin. From the spleen, M. Hayem has failed to obtain any definite results, but in regard to the marrow of bone, his results differ from those of M. G. Pouquet. According to M. Hayem, there are, amongst the coloured elements to be met with in the marrow of bone, certain bodies which are true white corpuscles, capable of amœboid movement, which only differ from ordinary leucocytes in the amount of hæmoglobin which they have assimilated. M. Hayem considers the hæmatopoietic function of the medulla of bone to be purely hypothetical. In short, the hæmatoblasts are, according to M. Hayem, formed by the breaking up of the nuclei which appear in the interior of the white corpuscles of the lymph.

9. *The Emigration of Blood Corpuscles.*—Dr. Paul Heger, the professor of physiology in Brussels, has arrived at the following conclusions in regard to the emigration of blood-corpuscles. Diapedesis is a rare phenomenon in the healthy organism, and if the blood-cells migrate from the vessels, they are only found in small numbers in the lymph spaces. The migration of blood-corpuscles is not therefore a necessary consequence of stimulation, as it takes place under normal conditions; it is to be looked upon rather as a function of the healthy organism, and is governed by movements of the vessels. Irritation of the walls of the blood-vessels favours migration, but it is difficult to ascertain the exact use of this function. The migration of blood-corpuscles in inflammation gives rise to the formation of pus, but experiments do not definitely decide where the part played by the corpuscle ends, and that of the connective tissue corpuscles begin.

10. *Hæmoglobin.*—Oxyhæmoglobin obtained from horse's blood crystallises very rapidly, though it may be kept in an amorphous condition for a long time at a temperature of zero C. Professor Hoppe Seyler has several times obtained crystals more than five millimètres in length and one millimètre in thick-

ness, which could be distinctly seen with the naked eye. The crystals apparently differ in the amount of water which they contain. Oxyhæmoglobin obtained from horse's blood in an amorphous condition, which has been dried at 0° C. under the air-pump, has, according to analysis made by Kessel, the following average composition C. 54.87, H. 6.97, N. 17.31, S. 0.61, Fe. 0.47. The composition of methæmoglobin and its conversion into oxyhæmoglobin is also discussed. The chemical nature of methæmoglobin is not yet accurately determined, but it has recently been considered to be hyperoxide of hæmoglobin. This view of its composition is however incorrect according to the author, since in certain cases in which methæmoglobin is readily formed, the fact of any oxidation taking place is quite out of the question. It is therefore more correct to assume that methæmoglobin is a mixture of hæmatin with a soluble albumin, and spectroscopic appearances go far to support this theory.

11. *The Action of Diastase, Saliva, and Pancreatin upon Starch and Glycogen.*—Musculus and Mering find that saliva and pancreatic juice form the same decomposition products with starch as does diastase, viz., reducing dextrines, maltose, and glycose. Glycogen, like starch, yields similar dextrines, maltose and glycose, when submitted to the action of saliva and diastase. The dextrines derived from glycogen differ from those obtained from starch in being less hygroscopic as well as in the fact that their reducing power is arrested at 37, whilst in starch this only takes place at 50. Diastase acts less energetically upon glycogen than saliva. There is only one form of glycogen, when the animal from which it is obtained has been fed entirely upon carbohydrates, or upon albuminoids. The existence of reducing dextrines and the fluctuating reducing powers which accompany maltose and glycose, shows that it is necessary to use the fermentation test to determine the presence of sugar in the fluids of the organism; it also explains the various results which have been obtained by investigators, according to their method of testing by fermentation, or by the reduction of Fehling's solution.

12. *The Quantity of Urea in the Tissues.*—The chief results obtained were as follows: The quantity of urea which could be detected in 100 grammes of the kidney varied with the activity of the urinary secretion. The largest quantities occurred when the uriniferous tubules were filled with urine. The amount of urea obtained from the complex fluid derived from a fistula in the thoracic duct whilst digestion is proceeding, is nearly the same as that which is contained in the blood. In the rabbits 1,000 grammes of unstriated muscle contained: in the first rabbit, three grammes of urea, and in a second rabbit, 3.1 grammes. In like manner, 1,000 grammes of liver removed during active digestion contained 0.3 grammes in the first rabbit, and 0.5 grammes in a second. These quantities are analogous to the amount of urea present in the liver of a starving dog. These results are held to prove M. Picard's theory that the proportion of urea in the liver varies with that contained in the blood, whilst the latter is in direct relation with the quantity of urea eliminated in the kidneys in the course of twenty-four hours. If an animal be bled after section of the nerves which surround the hepatic artery, a smaller quantity of urea than the normal is found in the blood generally. Sometimes, however, it is almost the same, but in no case is it greater.

D'ARCY POWER.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. HAUSSMANN.—On the Artificial Closure of the Fallopian Tubes. (*Centralblatt für Gynäkologie*, March 29, 1879.)
2. DICK.—Vaginal Cystocele as an Obstruction to Labour. (*Ibid.*)
3. TIBONE, D.—Four Cases of Cæsarean Section. (*Annali di Ostetricia, Ginecologia e Pediatria*, March 1879.)
4. MANGIAGALLI, L.—Case of Supernumerary Ovary. (*Ibid.*)
5. LANDI, PASQUALE.—On the Diagnosis of Ovarian Cysts. (*La Medicina Contemporanea, Rivista Italiana*, March 1879.)
6. DUDLEY, E. C.—Trachelorrhaphy. (*Chicago Medical Journal and Examiner*, March 1879.)
7. BEURMANN, M. L. DE.—Mortality of Lying-in Women in Hospitals. (*La France Médicale*, March 19, 1879.)
8. KÖBERLÉ.—Labour, with Uterine Fibroids; Gastrotomy, and Removal of the Tumours Six Months Later. (*Gazette Médicale de Strasbourg*, March 1879.)
9. PAWLIK, KARL.—Two Cases of Cæsarean Section, with Extirpation of the Uterus. (*Wiener Medizinische Wochenschrift*, Jan. 11, 1879.)
10. MAGGIA.—On the Muscular Fibres of the Uterus. (*Gazzetta Medica Italiana Provincie Venete*, Feb. 1879.)
11. MARTIN, AIMÉ.—The Treatment of Uterine Fibromyomas by Electrolysis. (*Annales de Gynécologie*, March 1879.)
- 12.—LUSK, W. T.—The Treatment of Hæmorrhage in Abortion. (*Medical Society, State of New York*, Feb. 1879.)
13. BRAXTON HICKS.—The Condition of the Uterus in Hydatidiform Degeneration of the Chorion or Vesicular Mole. (*Obstetrical Journal of Great Britain and Ireland*, April 1879.)
14. GOSCHLER, A.—Post Partum Metrorrhagia, with Contracted Uterus. (*Allgemeine Wiener Medizinische Zeitung*, March 25th, 1879.)
15. JENKS, E. W.—The Causes of Sudden Death in Puerperal Women. (*American Medical Association*, June 5th, 1878.)
16. SIMPSON, A. R.—On the Head-Flexion in Labour. (*Edinburgh Medical Journal*, April 1879.)
17. ROGERS, JOSEPH.—Unusual Laceration of the Perineum. (*British Medical Journal*, April 5th, 1879.)
18. GOODELL, W.—The Commoner Forms of Vesical Disorders in Women. (*The Boston Medical and Surgical Journal*, Feb. 1879.)
19. SIMPSON, A. R.—On Some Forms of Sterility, and on Placenta Prævia in First Labours. (*Obstetrical Society of Edinburgh*, Jan. 22, 1879.)
20. GALLARD, T.—On Vaginismus. (*Annales de Gynécologie*, April 1879.)
21. REIN, GEORGE.—Excision of the Gravid Uterus without Loss of Blood. (*Ibid.*)
22. KLOTZ, HERMANN.—Gynecological Studies on the Pathological Changes in the Portio Vaginalis Uteri. With eight lithographs. (Seidel and Son, Vienna, 1879.)
23. BRENNECKE.—Spontaneous Expulsion of a Fibromyoma of the Bladder through the Urethra during Pregnancy. (*Centralblatt für Gynäkologie*, April 12, 1879.)
24. MANGIAGALLI.—Porro's Operation. (*Annali di Ostetricia, Ginecologia, e Pediatria*, April 1879.)
25. GAUTIER, V.—On Measles during Pregnancy and Labour. (*Annales de Gynécologie*, May 1879.)
26. BUDIN, P.—Report on Midwifery Teaching, addressed to the Minister of Public Instruction. (*Ibid.*)
27. BRAUN, ERNST.—On Intra-Uterine Medication. (*Centralblatt für Gynäkologie*, May 10, 1879.)
28. FOCHIER, A.—The Limit of the Amount of Traction with the Forceps compatible with the Life of the Child. (*Lyon Medical*, May 4, 1879.)
29. LOGHENA, A.—Case of Cephalotripsy with the Fenestrated Cephalotribe of Lollini. (*Annali di Ostetricia, Ginecologia, e Pediatria*, April 1879.)
30. SWAYNE, J. G.—Are First Labours more Dangerous than others? (*Obstetrical Journal of Great Britain and Ireland*, May 1879.)
31. STADTFELT, A.—On the Physiological Asymmetry of the Head of the Fœtus, and the Mode of its Accommodation during Labour. (*Ibid.*)

1. *Artificial Closure of the Fallopian Tubes.*—Dr. Haussmann points out that the method lately described by J. Kocks (see LONDON MEDICAL RECORD, Feb. 1879), of closing the openings of the Fallopian tubes by the galvano-cautery, to prevent impregnation in cases where labour would be dangerous, is not new, as stated by Kocks. Froriep has recommended nitrate of silver for the same purpose. Blundell and Houghton had also made experiments on bitches, in which the oviducts were divided.

3. *Cæsarean Section and Porro's Operation.*—Dr. Domenico Tibone relates four cases in which he performed Cæsarean section in the Maternity at Turin, and one case in which he resorted to the procedure of removing the uterus and ovaries after the section, as recommended by Porro of Pavia. CASE I. C. G., aged 30, primipara, presented a rickety pelvis. She died three hours after the operation, with symptoms of hæmorrhage. At the autopsy, 600 grammes of blood were found in the peritoneum. The child lived.—CASE II. T. M., aged 36, 6-para, with osteomalacic pelvis. The patient died, three days after the operation, of peritonitis. A dead child was extracted.—CASE III. A. C., aged 33, 2-para, with osteomalacic pelvis. In this case, the osteomalacic disease had attacked the patient in her second pregnancy, and had rendered delivery *per vias naturales* impossible by the end of the pregnancy. Although previously rickety, her first labour was spontaneous and natural. She died from exhaustion. The child survived.—CASE IV. M. C., aged 28, primipara. The pelvis was of a rickety, pseudo-osteomalacic type. Death ensued from peritonitis. The child survived. In the above cases the uterine wound was united by sutures.—The fifth case was that of B. M., aged 27, primipara. The pelvis was rickety. In this case, Porro's operation was performed under antiseptic precautions. The patient died twenty-four hours after the operation. The child, an eight months' male fœtus, survived.

7. *Mortality of Lying-in Women in Hospitals.*—In 1854, when the Lariboisière was first opened at Paris, under the most favourable hygienic conditions, as it was then thought, the mortality of the lying-in women in the Saint-Anne ward assumed the frightful proportion of one death in every ten labours. Under more strict precautions of cleanliness and care, the above mortality was reduced in 1877 to one death [in 145 labours, and in 1878 to one in 155. This is about the mortality which prevails among lying-in women outside hospitals, and goes to prove that with due care the mortality of lying-in women, even in a general hospital like the Lariboisière, need not be higher than that outside. In the Cochin Hospital, the maternal mortality from 1873 to 1877 was one in 227 labours. These figures afford a complete answer to the statements which have been made, that lying-in hospitals are of necessity *foci* of puerperal fever.

8. *Gastrotomy and Enucleation of Uterine Fibroids.*—Mme. J., aged 29, became pregnant in October 1876. After the second month she felt pains in the pelvis. On examination by the vagina, M.

Aubenas found the uterus retroverted, and the posterior cul de sac occupied by a fibroid growing from the posterior wall of the uterus. There could also be felt a second smaller tumour growing from the right posterior angle of the uterus. At the end of the fifth month, the tumours rose above the pelvic brim. The pregnancy progressed and terminated without further mishap at term. At the beginning of January 1878 the tumours had so increased in size, as to cause grave symptoms from pressure on the pelvic organs. Mme. J. had kept her bed since October 1877, and suffered from complete loss of appetite, nausea, and vomiting. M. Kœberlé was called in to extirpate the tumours. In view of the serious condition of the patient, he determined to operate. An incision was made through the abdominal wall 9 centimètres in length, from immediately under the umbilicus. The fibroid tumours, together with the uterus, were drawn out of the pelvis and found to be growing, each by a broad base, from the posterior wall of the uterus. M. Kœberlé enucleated both tumours, and fixed the uterine wound in the abdominal wound by means of a silk suture passed through the shell of the enucleated tumour. The two ends of the suture were fixed outside the abdomen by a rod placed across the abdominal wound. A glass drainage-tube was passed into the cavity left by the enucleated tumour, to give passage to any blood that might escape from the uterine wound. There was very little hæmorrhage. On the ninth day after the operation, the drainage-tube and the suture maintaining the uterus *in situ* between the sides of the abdominal wound were removed. By the sixteenth day the abdominal wound had closed. At the end of a month the patient had recovered, and was walking about. Thirty-six days after the operation menstruation recurred in a normal manner.

9. *Two Cases of Porro's Operation.*—Pawlik gives the history of two cases in which Professor Braun-Fernwald extirpated the uterus after Cæsarean section. CASE I. M. M., aged 26, primipara, of small stature and rickety pelvis. The operation was carried out under the carbolic spray and chloroform. A living female child was extracted. The stump of the cervix was fixed in the lower end of the abdominal wound by sutures. The subsequent dressings were done under Lister's precautions. The patient recovered in five weeks. Two months after the operation the following conditions were present: The vagina was directed forwards and was narrowed, so that the introduction of two fingers was exceedingly painful. At the fundus of the vagina a portion of the cervix of about half a centimètre in length, could be felt remaining. The pushing upwards into the vagina of any instrument, moved with it the lower angle of the abdominal wound.—CASE II. K. M., aged 40, 8-para. Since her last pregnancy, the pelvis had become contracted by osteomalacia. Her previous labours, with the exception of an arm-presentation, had been normal. There was hæmorrhage from the stump on the evening of the operation. This was controlled by sesquichloride of iron. On the second day, hæmorrhage again took place from the stump, and was again arrested by the iron. The patient vomited everything, except she took iced soda-water. She died at 7 P.M., on the third day. The child, a female, survived. The operation was performed antiseptically.

16. *Head-Flexion.*—Professor Simpson draws attention to the observations of Lahs on head-flexion. According to Lahs, the parturient power is trans-

mitted to the presenting head, not through the foetal axis alone, or mainly, or at all, but through all the uterine contents that lie above the zone immediately embraced by the expanding passages. While generally endorsing the views of Lahs, Professor Simpson cannot help thinking that when the uterus gathers itself as a resistant tube around its contents, the pressure of the fundus must sometimes bear upon the breech of the child—more particularly when the liquor amnii is scanty—so as to make its influence perceptible through the spinal column. Professor Simpson remarks that the marked head-flexion produced in the expulsion of a dead flaccid fœtus affords demonstration of the truth of the "general contents' pressure" of Lahs.

17. *Unusual Laceration of the Perinæum.*—On the 18th March 1879, Dr. Rogers was called to a woman by the midwife in the Westminster Workhouse. On his arrival, the midwife informed him that the woman had been in labour for two hours and a half, and that there was a head-presenting at the vagina and another head coming through the anus. On examination, he felt the vertex through the vaginal opening, and that further back the face was presenting through the anus; a bridge of unruptured perinæum separating the two openings. While Dr. Rogers was considering what was to be done, two pains quickly succeeded and ruptured the remainder of the perinæum. Examination, a fortnight later, showed that the whole perinæum and lower portion of the rectum had been torn through.

23. *Expulsion of Polypus from Bladder during Pregnancy.*—The patient, aged 34, 4-para, first felt, about the sixth month of her pregnancy, severe labour-like pains. Previously, she had noticed that her urine was thick, and that occasionally it suddenly stopped in its flow during micturition. On vaginal examination, Dr. Brennecke, who suspected a premature labour, found the cervix firm and the os closed. He ordered opium and warm stupes to the abdomen and genitals. Fifteen hours later, the false labour-pains became acute, and were terminated by the expulsion of a small polypus, which had twisted off its pedicle, about the size of the kidney of a new-born child. The ammoniacal urine, vesical catarrh, and other symptoms, at once subsided, and the pregnancy went on normally, and terminated in a natural labour. The tumour, on microscopical examination, was found to consist of a loose fibrillar connective tissue, containing round and spindle-shaped cells, which at one spot assumed a marked myxomatous character. The surface of the tumour was covered by a thin layer of epithelial tissue.

24. *Porro's Operation.*—Up to the present time, the operation of Cæsarean section, complemented by utero-ovarian amputation, has been performed twenty-three times. Chiara and Tibone have each performed it three times, and each saved one woman. C. Braun, Spaeth, Fernwald, and Wasseige, have each done two cases, and have each had one success. Porro, Perolio, Müller, and Breisky, have done one case each with success. Previtali, Franzolini, Peyretti, Gustav Braun, Hegar, Fehling, and Litzmann, have all operated once, and all unsuccessfully. The patients of Previtali and Franzolini were moribund at the time of operation; Hegar's patient was uræmic, and the subject of interstitial nephritis. From the above, it is seen that, of twenty-five cases, ten recovered and fifteen died.

25. *Measles in Pregnancy and the Puerperal State.*—Dr. Gautier concludes from the few cases which

have been published that :—*a.* Measles during pregnancy predisposes to abortion and death of the foetus, and is not without danger to the mother ; *b.* When it supervenes during the puerperal condition, the prognosis is less grave, both for the mother and the child, although the latter may present all the symptoms of the exanthem. In no case has hæmorrhage been recorded.

26. *Report on Midwifery Teaching.*—Budin states that "it now appears that lying-in hospitals well fitted up and well directed present no drawback, and so, instead of suppressing them, the authorities at Halle, Leyden, and Helsingfors, are building new ones".

30. *Maternal Mortality in Primiparæ.*—Out of 1022 cases in private practice, attended by Dr. Swayne, 231 were primiparæ, and none died ; but five mothers died out of the 791 multiparæ. Dr. Swayne concludes that the mortality among primiparæ is less than among multiparæ, but that the infant mortality is greater in primiparæ than in multiparæ, being 7.8 per cent. in primiparæ, 5.9 per cent. in multiparæ. FANCOURT BARNES, M.D.

DISEASES OF CHILDREN.

RECENT PAPERS.

1. MUELLER, N.—A Case of Congenital Hydrocephalus Resulting in Recovery. (*Centr. Zeit. f. Kinderheilk.*, Feb. 15, 1879.)

2. HATZUK and ROSENBERG.—On Chronic Hydrocephalus, Craniomalacia, and Cranio-tabes. (*Centr. Zeit. f. Kinderheilk.*, March 1, 1879.)

3. NICOLADONI.—On Myositis Ossificans Progressiva. (*Centralblatt f. d. Med. Wissensch.*, March 8, 1879.)

4. KASSOWITZ, M.—On the Formation and Absorption of Bony Tissue, and the Nature of Bone Softening in Rickets. (*Centr. Zeit. f. Kinderheilk.*, Feb. 15, 1879.)

5. BRIEGER.—On Muscular Pseudo-Hypertrophy. (*Centralblatt f. d. Med. Wissensch.*, March 8, 1879.)

6. LUDWIG.—A Case of Cured Invagination of Intestine in a Child of Eight Months. (*Centr. Zeit. f. Kinderheilk.*, March 1, 1879.)

7. EISENSCHÜTZ.—A Case of Cured Intestinal Invagination. (*Centr. Zeit. f. Kinderheilk.*, March 15, 1879.)

8. SCHWARTZ.—On Ovariectomy in Children. (*Ibid.*)

9. WEIR.—On Infantile Summer Diarrhoea. (*Sanitary Record*, March 28, 1879.)

10. STRANGE, W.—On Infant Mortality. (*Med. Times and Gazette*, April 5, 1879.)

11. PAGET, W. S.—On Enteric Fever in Infancy. (*Brit. Med. Journal*, April 5, 1879.)

12. ROBIN.—On Icterus Neonatorum. (*Le Prog. Médical*, March 29, 1879.)

13. CAMPARDON.—On the Treatment of Whooping-Cough by Tincture of Myrrh. (*Bullet. Therapeut.*, *Edin. Med. Journal*, p. 945, April 1879.)

14. WIGGLESWORTH, A.—On the Treatment of Whooping-Cough by Atropia. (*Lancet*, April 12, 1879.)

15. HRYNTSCHAK.—On Propylamin in Whooping-Cough. (*Centr. Zeit. f. Kinderheilk.*, April 1, 1879.)

16. REDENBACHER.—On Bromine, or Bromide of Potassium in Laryngeal Croup. (*Aertsklich Intelligenzblatt*, Jan. 7, 1879.)

17. HAYWARD, T. E.—On Three Cases of Membranous Laryngitis, with Tracheotomy. (*British Med. Journal*, April 5, 1879.)

18. GREENWOOD and REID.—Cases of Croup. (*Ibid.*)

19. SIMON, JULES.—On the Treatment of Croup and Tracheotomy. (*Gaz. Méd. de Paris*, March 22 and 29, 1879.)

20. DONKIN, H.—On a Case of Tonsillitis, Measles,

Membranous Laryngitis, and Catarrhal Pneumonia. (*Brit. Med. Journal*, May 3, 1879.)

21. Discussion on the Milk-Feeding of Infants at Nurse (at the Ulster Medical Society). (*Dublin Journal of Med. Science*, April 1879.)

22. OLIVER, J. P.—On Chronic Gastro-Duodenal Catarrh. (*Boston Med. and Surg. Journal*, March 13, 1879.)

23. PORTER, P. B.—On Kumyss in the Intestinal Disorders of Infants and Young Children. (*New York Med. Journal*, March 1879.)

24. ABELIN.—On Tubercular and Syphilitic Bone Affections in Children. (*Centr. Zeit. f. Kinderheilk.*, April 1, 1879.)

25. CHEEVER, D. W.—On Spina Bifida. (*Boston Med. and Surg. Journal*, March 20, 1879.)

26. RICHET.—Operation for Combating Masturbation in Young Children. (*Gazette des Hôpitaux*, March 13, 1879.)

27. PEELE, E.—On a Case of Tetanus treated by Chloral Hydrate: Cure. (*Dublin Journal of Med. Science*, April 1879.)

28. BOUCHUT.—On Cachectic Thrombosis of the Sinuses of the Dura Mater, and Final Convulsions in Children's Diseases. (*Gazette des Hôpitaux*, March 11, 20 ; April 3, 1879.)

29. MANOUVRIEZ.—On an Epidemic of Infantile Variella at Valenciennes. (*Gazette des Hôpitaux*, March 29, 1879.)

30. CHARON.—Case of Chronic Rheumatism and Endocarditis in a Child Four Years Old : Chronic Catarrh of the Large Intestine: Death. (*Presse Médicale Belge*, April 20, 1879.)

31. LANCEREAUX.—On Hereditary Alcoholism. (*Gaz. des Hôpitaux*, April 12, 1879.)

32. ELLIOTT, C.—A Case of Retropharyngeal Abscess: Death. (*British Med. Journal*, May 3, 1879.)

1. *Congenital Hydrocephalus: recovery.*—In this case of a new-born female infant, the circumference of the head was 36.5 centimètres ; the skull was obviously hydrocephalic. The circumference increased 18 centimètres in the course of the first four months ; in the fifth month it remained stationary, and in the sixth it decreased 1 centimètre. After this the skull increased only slightly in circumference, but not inconsiderably in height. At the end of the first year the horizontal circumference was 54.5 centimètres ; the distance between the two external auditory meati over the vertex was 39.5 centimètres. The size and height of the body had increased in the normal way. In the second year, the dimensions of the skull changed but little: the sutures and fontanelles gradually ossified, and no development of ossicles was noticed. At the end of the third year ossification was complete. The sutures and fontanelles were marked by corresponding depressions. Since the end of the first year the horizontal circumference had increased 1 centimètre, while the bi-auricular measurement had increased 6.5 centimètres. With regard to the brain symptoms in the first month, during the rapid enlargement of the skull, vomiting and restlessness were observed. In the fourth month there was noticed a slight paresis of the limbs on the left side, which remained permanently, so that the left foot was somewhat dragged and the left hand could not be lifted high up. The sense-organs were normal. The mental faculties were but slightly developed, but the child was not to be described as an idiot. The development of the body also was very backward, partly owing to several illnesses which the child had suffered in the last two years. Towards the end of the third year it could not walk without support. The head was held up and easily moved. Dr. Mueller remarks in con-

clusion on the rare occurrence of a case like this, but does not affirm that the cure is complete.

3. *Myositis Ossificans*.—This disease occurred in the case of a girl, seven years old—the first symptoms appearing when she was one year old. The neck muscles were first affected, then those of the back, the shoulder-girdle, the upper extremity, and the semi-membranosus and semi-tendinosus in the right thigh. A great part of these muscles was changed into cords of bony hardness. This disease is rare, only nine cases being reported. It occurs in children or young people; first in the trunk, neck or back muscles, spreading therefrom to the muscles of the extremities, not uniformly but fitfully, so that single muscles may remain intact. The malady is generally symmetrical. Some muscles seem always to be spared; e.g., the external muscles of the eye, those of the face, the tongue, the gullet, and the diaphragm; and also the abdominal muscles, the genital organs, and the heart. Unstriated muscle is always free from this affection. The disease seldom comes to a standstill, but generally progresses to death by cachexy. There are three stages of this malady:

1. *That of Inflammatory Swelling*.—A hardish swelling develops itself sometimes in only one part of the muscles, and this is followed by an approximation of the ends of the muscle. There is accompanying fever and notable lessening of the excretion of phosphates. Whether this swelling is a primary affection of the contractile elements or of the perimysium is not certain. (2.) *Stage of Atrophy*.—The circumference of the muscle becomes less than normal, and of the consistence of hard gum.

(3.) *Stage of Ossification*.—The muscles become gradually harder, and may be changed in the course of eight weeks from the onset of the disease into cords of bony hardness. Sometimes a crookedness may develop with the growth of the skeleton; as scoliosis, from one-sided ossification of the spinal muscles. Other deformities, however, are very unusual; the ossified muscles probably growing with the skeleton. This is all the more probable, because the muscles are in fact changed into true bone. With regard to the nature of this disease, it seems to be connected by its many analogies to progressive muscular atrophy and pseudo-hypertrophia muscularis with a tropho-neurosis. As yet no examination of the spinal cord has been made.

5. *On Muscular Pseudo-Hypertrophy*.—A case is here reported of pseudo-hypertrophy of muscles in a child eleven years old. Death occurred from tubercular meningitis. The usual changes were found in the muscles, but in spite of the most careful examination no lesion of the nervous system was found.

6. *Invagination of Intestine*.—This case illustrates the advantage of using mechanical means to replace the bowel. In a child of eight months old, on the second day of the illness an invagination could be felt in the rectum and successfully replaced. In the next four weeks the invagination took place twenty-seven times, but was always replaced by injections of water or by a sound. The bowel was finally retained in its place. The invaginated part probably belonged to the descending colon, as the sound was only introduced 18 centimetres.

7. *Intestinal Invagination Cured*.—This interesting and instructive case occurred in a child three months old, which had been fed entirely at the breast, and had been perfectly healthy up to this attack. The first symptom was vomiting of a bile-coloured fluid, followed on the same day by a copious and completely bloody stool. On the second day the child is

said to have slept continuously, to have become very pale and wasted, and to have vomited every time he drank. By mid-day he had another stool of pure blood. In the evening the following state was noted: The child was well nourished, pale, and drowsy. The fontanelle markedly depressed; the belly moderately and uniformly enlarged; no demonstrable swelling; but the ileo-cæcal region was sensitive and painful on pressure. There was nothing abnormal found by a rectal examination, which, however, was followed by a stool which consisted of about three tablespoonfuls of dark semi-fluid blood. In the next hour there were again stools, chiefly bloody; the vomiting had stopped. A second digital examination of the rectum made by M. Politzer had a negative result like the first; but with the withdrawal of the finger the child strained, and there was an evacuation of a small quantity of slimy purulent liquid, which was undoubtedly mixed with small lumps of casein. A water-clyster was given, which was followed by an evacuation of gas and small pieces of casein. Immediately after this the child became brisk and lively. Three hours after, M. Eisenschütz saw the child again; meanwhile it had taken the breast well, had two stools, and slept quietly. The second stool consisted of a slimy mass mixed with blood-coloured spots, and distinct bits of casein in small quantity. An injection of water was then given; the enema tube being introduced about five centimetres. This was squirted back with much noise, being mixed with gas. In the course of this procedure the tube slipped in three or four centimetres farther, but no stool followed. Two hours afterwards a normal and moderate-sized stool passed, and the child was thenceforward quite well.

9. *Infantile Summer Diarrhœa*.—In this paper, entitled "Is Infantile Summer Diarrhœa a Zymotic Disease?" Dr. Weir (of Leicester) arrives at the negative conclusion, and submits, with many facts in evidence, that infant mortality from all causes, including diarrhœa, is more subservient to the commercial nature and state of any given town or district, the birth-rate and the degree of vitality of the offspring, than to heat *per se* on the one hand, or sanitary conditions on the other.

10. *Infant Mortality*.—In his annual report, as medical officer of health at Worcester, Dr. Strange, makes special remarks on the causes and circumstances of the excessive infant mortality of the district. The vital statistics show that Worcester is an exceptionally healthy place for all except infants and young children, and the returns prove that the mortality amongst the latter is not due to any want of sanitary measures. Dr. Strange considers that the chief causes of this mortality are ignorance, neglect, and poverty, on the part of the parents, especially in the matter of feeding.

11. *Enteric Fever in Infancy*.—In this communication a case of enteric fever in a child eighteen months old is given, presenting the leading characteristics. Dr. West's authority is quoted for the rarity of enteric fever before the age of two years; and a case is referred to (published in the *British Medical Journal*, March 8, 1879), which occurred in a child fifteen months old. Citing the opinion of Dr. William Thompson (*British Medical Journal*, March 8, 1878), that one reason why adults do not contract enteric, though coming into contact with it, is that they have had it already during infancy, the author raises the question as to whether it is not much more common in infancy than is generally

believed, often passing undiagnosed. [The recent very important papers in the *British Medical Journal* for March 8, 15, and 22, 1879, by Dr. A. Collie of the Homerton Fever Hospital, on the Etiology of Enteric Fever lend support to this view, which is thought probable by Dr. Collie.—*Rep.*]

12. *Icterus Neonatorum*.—In a communication to the Société de Biologie, M. Alb. Robin gave the results of researches which he had undertaken with M. Parrot. The urine in these cases contains (1) such elements as urate of soda and lime, hæmoglobin, etc.; (2) yellow granulations of great refractile power; (3) a special substance made up of irregular bodies, either isolated or contained in tubules. These M. Robin calls "yellow masses". They are differentiated from the colouring matters of the bile by their chemical reactions. Nitric acid dissolves them after half an hour; hydrochloric acid gives them a garnet colour. MM. Robin and Parrot regard these masses as arising from the transformation of red globules. They therefore divide icterus neonatorum into two classes: 1. *Ictère hémaphérique*, which may be physiological, or may cause fatal symptoms. In either case, the urine contains these yellow masses. 2. *Ictère biliphérique*, in which the urine is almost entirely without the "yellow masses".

13. *Treatment of Whooping Cough*.—This author states that whooping cough yields easily and rapidly to the alcoholic tincture of myrrh (15 drops to the tablespoonful) in quinine wine or Vichy water. A tablespoonful every hour or two.

14. *Treatment of Whooping-Cough*.—Mr. Wigglesworth has used the solution of sulphate of atropia in all cases of whooping-cough (from two months old to the adult) for the last four years. He begins with 1-120th of a grain (or one minim to a drachm of water) in children from one to four years old, either diminishing or increasing the dose as occasion dictates; and, except in very severe cases, ordering it to be given only once a day. When the nightly paroxysms are very severe, half the dose is repeated about an hour before bedtime. The results he claims to be as follow: 1. There is a steady diminution in the number of paroxysms. 2. There is a diminution in the duration of the paroxysms. 3. There is a change in the character of the "whoop", as if the vocal cords were not so closely approximated. Further, if the atropine be withheld, the beneficial effects subside. These results follow more or less speedily the administration of the remedy, and appear to depend on the susceptibility of the patient to the action of atropia. In a few cases thirst may be a prominent symptom, which subsides, however, on a diminution of the dose. In only one case has the sensation of falling down been experienced, and this disappeared with a reduction in quantity. The writer considers whooping-cough to be essentially a neurosis; and believes that it is the laryngeal branches of the pneumogastric nerve that are primarily affected. After a consideration of the physiological action of belladonna, the paper ends with the conclusion that, by its action on the pneumogastric and sympathetic nerves, and also upon the medulla oblongata, atropia relieves, and ultimately cures the neurosis called whooping-cough; and that in those cases when, from idiosyncrasy or easily-excited sympathetic action, the intensity and severity of the reflex phenomena are greatest, the beneficial action of atropia will be more marked.

17. *Three Cases of Membranous Laryngitis*.—The first two of the three cases here reported recovered

after tracheotomy had been performed by Mr. Hayward, the resident medical officer at the East London Hospital for Children. The operation was performed in the one case (four years old) on the fourth, in the other (two and a half years old) on the seventh day after the onset of the symptoms. Both cases were operated on immediately after admission into hospital, as they presented urgent symptoms, recession of the chest-walls, among others, being well marked. The existence of false membrane was clear before operation. On the third day after operation, the edge of the wound in both cases showed white patches of membrane. The third case was that of a child, three months old, who had had a cough for three weeks; the urgent symptoms however being of twelve hours' duration. No membrane was seen before operation; but shreds were removed after it. The child appeared better the next day, but died suddenly in the afternoon. The *post mortem* examination showed the right heart to be distended, with a firm clot extending through the tricuspid orifice. Both lungs were partially pneumonic. False membrane was found behind the posterior nares; none on tonsils; small shreds could be peeled off the laryngeal mucous membrane. None was found in the trachea, but its mucous membrane was reddened. At the bifurcation of the trachea, and in each bronchus, were patches of membrane extending into the secondary tubes.

18. These two cases were under the care of Dr. Sansom, at the North-Eastern Hospital for Children. Both recovered without operation, one being treated by emesis, liq. potassæ spray, and a draught containing pot. bicarb. and amm. carb. every two hours; and on the third night, with a solution of lactic acid, applied with the laryngeal brush. The second case was treated by a mixture containing three minims of liq. potassæ for a dose. An emetic brought away false membrane.

19. *Simon on the Treatment of Croup*.—These lectures are clear and worthy of perusal, but contain nothing new. The author regards croup as a "pseudo-membranous laryngitis", or local manifestation of diphtheria, which is generally preceded by a faucial complaint of the same nature. In the stage of "angina" he recommends perchloride of iron, with the occasional aid of emetics; proscribing caustics, depletion, and opiates, and considering alkaline topical applications of no use. The second lecture is devoted to the detailed consideration of tracheotomy.

20. *H. Donkin on a Case of Membranous Laryngitis, etc.*—In this case, the existence of membrane in the respiratory passages was made out only on the operation of tracheotomy performed for dyspnoea, which occurred in the course of tonsillitis and laryngeal symptoms after an attack of measles. The measles had, however, been preceded by a set of symptoms similar to those which led to the tracheotomy, but less severe, and which had, apparently, quite ceased when the measles supervened. The question is suggested as to what amount of etiological importance in this case is to be attributed to the presence of false membrane, which was revealed by tracheotomy.

25. *Cheever on Spina Bifida*.—A case is here related of tapping a spina bifida, and injecting it with half a drachm of water containing two minims of tincture of iodine. Death followed, after convulsions, eighteen hours subsequently to operation. It is remarked that the tumour had no neck, communicating with the spinal cavity by means of a large

opening. From the shortness of the time at which death supervened, it was thought that the fatal result was due to alteration of pressure in the brain. [Cf. Mr. Gould's case and discussion thereon in Clinical Society's *Transactions* for 1878; and a successful case referred to in LONDON MEDICAL RECORD, Feb. 1879.]

26. *Masturbation in Young Children*.—In this paper, M. Richet advises that, in cases of masturbation without discoverable cause, such as phimosis, in young children, preparation for operation should be made in the sight of the child, as though circumcision were about to be performed. The thermocautery should be got ready and applied to a small portion of the prepuce. One, or at the most two, applications will generally be enough to cure the habit, but the threat should be held out that, if the habit be continued, the penis will be cut off bit by bit until none remains.

27. *Tetanus Treated by Chloral Hydrate*.—The points of interest in this case are, 1, that it occurred in a boy aged six years; 2, the long continuance and most marked degree of the symptom in the right leg, which was the injured limb; and, 3, the good effect of treatment by chloral hydrate. The drug was given in six-grain doses four times a day at first, and afterwards increased to eight grains.

28. *Bouchut on Thrombosis*.—In some lectures given at the Hôpital des Enfants-Maladies, M. Bouchut dwells on the subject of thrombosis of veins in cachectic and chronic maladies; a subject which he first wrote on in 1844. Instances of this are very numerous; not only do they occur in the lower limbs, but in the iliac veins, the portal vein, the jugular, the pulmonary arteries, the sinuses of the dura mater, and in the right cavities of the heart. The symptoms of this thrombosis of course differ with its seat: thus, in the pelvis, it may cause swelling and pain in the lower limbs; in the vena cava, intestinal hæmorrhage; in the brachio-cephalic and the jugular, hæmoptysis. So in the sinuses of the dura mater this cachectic thrombosis produces convulsions in the child and delirium in the adult. M. Bouchut gives a *résumé* of 38 cases in illustration of this last statement, in all of which *post mortem* examinations were made. He admits with Lancereaux that there are thromboses of inflammatory origin, and those due to retarded circulation; but confines himself to those of the latter class, which he has had an opportunity of observing frequently and carefully in children. The affection begins at the end of acute diseases, and in the course of chronic ones, with sudden convulsions of short duration, or with delirium of a more or less marked kind, announcing the approach of death. Convulsions are seen in these cases up to the age of about seven years; while delirium is met with only in older children and adults. In the 38 observations of final convulsions in children affected with different cachectic diseases, 35 had thrombosis of the sinuses, and three overfilling with blood and encephalitis. The cases occurred under the following heads. Final convulsions from thrombosis of sinuses, 35 cases: chronic enteritis, 5; measles (catarrhal pneumonia), 2; chronic pneumonia, 5; phthisis, 8; anasarca without albuminuria, 1; chronic albuminuria, 2; whooping-cough and pneumonia, 7; scrofulous cachexia and tubercle of the bones, the lungs, and the intestine, 1; gangrene of the mouth, 1; diphtheria, 2—35. Convulsions, with stases of blood in the sinuses without thrombosis: chronic pneumonia, 1; whooping-cough, 2—38.

29. *Manouvriez on Varicella*.—At the end of an

interesting paper on an epidemic of varicella at Valenciennes in 1876-77, M. Manouvriez writes as follows on the specificity of the disease, illustrating his statements from his observed cases. Varicella is not a variety of small-pox. 1. Non-vaccinated individuals did not show a greater tendency than others to take the disease; and those recently vaccinated furnished a large contingent of patients, while many who had not been vaccinated for long were spared. 2. Children recently sufferers from varicella and not before vaccinated, were vaccinated with success, proved by the fertility of the lymph taken from them. 3. Varicella never gave rise to variola by transmission, even to the non-vaccinated. 4. The disease remained peculiar to childhood in contradistinction to the varicella-like form of disease observed in epidemics of small-pox. With regard to incubation, it is said to be longer in varicella than in small-pox, being in the former from 14 to 17 days, and, in the latter, from 11 to 14; but, in four of these observed cases, the incubation of varicella could not have been more than 11, 10, 9, and 8 days respectively. M. Manouvriez showed that there is an ecthymatous form of eruption in which the pustule is clearly umbilicated, and leaves a varioliform scar; and, on the other hand, that the eruption of variola is sometimes only represented by non-umbilicated vesicles, leaving only temporary stains. Varicella is, moreover, subject to complications and sequelæ, like those of variola, and is not always harmless. In 57 cases there were two deaths. It is best to allow that varicella in its most marked form resembles greatly the milder cases of variola; so much so, that good observers may be mistaken. But, although these two diseases are so much alike in their external signs and their eruption, they differ essentially in their behaviour by the modifications which they work on the receptivity of the organism they affect, and by the pathological reaction of their virus. As the name varicella has been and still is indistinctly applied to both these diseases, M. Manouvriez proposes to style the disease under discussion *infantile varicella*, to distinguish it in the future from *variola varicelliformis*.

30. *Charon on Chronic Rheumatism*.—The case reported here is interesting, as chronic rheumatism is not common in children so young. The death appears to have been due to exhaustion from uncontrollable diarrhoea, yet the autopsy showed signs only of intestinal catarrh. M. Charon calls attention to this fact, thinking that such *post mortem* signs are frequently overlooked, and yet underlie most serious symptoms.

31. In an article in the *Gazette des Hôpitaux*, the writer alludes to M. Lancereaux's study of the effects of hereditary alcoholism. Hysterical young girls are stated to have generally at least one parent addicted to alcohol in excess; and children of both sexes who are markedly predisposed to convulsions, and who manifest functional disorders on the least provocation, are almost always the issue of alcoholic parents. Besides these functional disorders, there are material lesions of inflammatory nature which affect the nervous centres, and which vary according to age. During the embryonic period there are malformations of the brain and partial atrophies of the cerebral hemispheres, followed by such consequences as infantile paralysis and epilepsy. It is especially epilepsy which M. Lancereaux insists upon as a most common result of alcoholism of parents. A former pupil of his, M. Martin, while acting as interne at the Salpêtrière, has made a

series of interesting observations on nervous affections amongst the offspring of alcoholic parents. His results may be summed up as follows: in 83 families in which one or more members showed nervous excitability with a history of alcoholic origin, there were 410 children. Of these, 108, more than a quarter, had convulsions, and in the year 1874, 169 were dead; 241 were still alive, but 83, *i. e.*, more than one third of the survivors, were epileptic.

32. *Elliott on Retropharyngeal Abscess.*—A case is here recorded of dysphagia in a child aged three; who, having been suffering for a week, was admitted into the Bristol Children's Hospital on September 18. Nothing was discovered on examination of the throat but a slight enlargement of the right tonsil and reddening of the fauces. The dysphagia increased till the child died on the 28th, having had ten convulsive fits during the last three days. On *post mortem* examination, an abscess containing two ounces of pus was found on the posterior wall of the pharynx. There was no spine disease. [This case is instructive, recalling the necessity of exploring the pharynx with the finger in all cases of dysphagia; a duty which is, apparently, apt to be omitted.]

HORATIO DONKIN, M.B.

PSYCHOLOGY.

RECENT PAPERS.

SIGERSON, G.—An Examination of Certain Recently Reported Phenomena in connection with Hystero-Epilepsy and Cerebral Anæsthesia. (*Brit. Med. Journ.*, Feb. 1 and 8, 1879.)

BRISTOWE, J. S.—Two Cases of Hysteria. (*Brit. Med. Journ.*, Feb. 1 and 8, 1879.)

ANDERSON, T.—Hystero-Epilepsy. (*Brit. Med. Journ.*, Feb. 8, 1879.)

A Description of Thoughts having Suicide for their Subject, given by an Epileptic Individual. (*Brit. Med. Journ.*, Feb. 22, 1879.)

WERNICKE, C.—On Consciousness. (*Allg. Zeitschr. f. Psych.*, Band xxxv, Heft. 4.)

SHAW, J. C.—A Case of Progressive Muscular Atrophy, with Sclerosis of the Lateral Columns. (*Journ. of Nervous and Mental Disease*, Chicago, Jan. 1879.)

JACKSON, J. HUGHLINGS.—Lectures on the Diagnosis of Epilepsy. (*Brit. Med. Journ.*, Jan. 11, 25, and Feb. 1, 1879.)

BROADBENT, W. H.—A Case of Peculiar Affection of Speech, with Commentary. (*Brain*, Jan. 1879.)

WITKOWSKI, L.—Some Remarks on the St. Vitus' Dance of the Middle Ages, and on Psychic Infection. (*Allg. Zeitschr. f. Psychiatrie*, Band xxxv, Heft. 6.)

CARTER GRAY ON CEREBRAL THERMOMETRY.—Following M. Paul Broca, Dr. Gray (*Journal of Nervous and Mental Disease*, Chicago, January 1879) has made observations of the surface-temperatures in the frontal, parietal, and occipital regions of 102 males. His results correspond in the main with those of M. Broca, whose conclusions were based upon the observation of twelve cases only.

The following propositions laid down by the author seem well supported by his facts and figures:

1. The average temperature of the left frontal station is 94.36, the right being 93.71. 2. The average temperature of the left parietal station is 94.44, the right being 93.59. 3. The average temperature of the left occipital station is 92.66, the right being 91.94. 4. The average temperature of

the left side of the head is 93.83, the right being 92.92. 5. The average temperature of the whole head, exclusive of the vertex, is 93.51. 6. The average temperature of the motor region of the vertex is 91.67. 7. The average temperature of the whole head, inclusive of the vertex, is 92.66. 8. If there be an alteration of temperature at any of the lateral stations of more than one-and-a-half degree above or below the average temperature of such station, this fact will justify a suspicion of abnormal change at that point. 9. In proportion as the alteration of temperature at any individual station is increased or decreased beyond the figures just mentioned, in exact proportion will the strength of the evidence be increased as to the existence of abnormal change at that station. 10. Should such elevation of temperature be at any lateral station on the *right* side, causing a rise at this point beyond the average temperature at the corresponding station on the left, this would strengthen the suspicion or the evidence. 11. These remarks apply with equal force to the average for the whole of either side, as well as to the average for the whole head. 12. It is necessary to the validity of these conclusions, that the contemporaneous bodily temperature should be normal, or that there should be a marked disproportion between it and the cerebral temperatures.

In all the author's cases, the bodily temperature was taken in the mouth; the *average* in 102 healthy males is given as 99.68, the minimum as 99.0 and the maximum as 100.5.

An interesting case of tumour of the brain is recorded, in which the locality of the lesion, diagnosed during life by the aid of the thermometer, was confirmed by *post mortem* examination.

[It seems to be too confidently assumed that differences between surface-temperatures at various points of the head indicate similar differences of temperature in the convolutions lying beneath those points. Sufficient allowance does not seem to be made for the varying thickness and vascularity of the scalp and cranium at different points, nor for various external conditions which strongly affect surface-temperature, but exert very little influence upon the temperatures of internal organs.—*Rep.*]

W. HENRY KESTEVEN ON THE SYMPATHETIC CENTRE.—The author (*Brain*, October 1878) denies that there is a direct vaso-motor centre either in the medulla or spinal cord; he also doubts whether there is any truth in the supposed existence of a centre specially regulating the production of body-heat. Mr. Kesteven's theory is, that the sympathetic nerves exercise a stimulant, and the cerebro-spinal nerves an inhibitory, action upon the muscular coats of the blood-vessels. Faradisation of the spinal cord is supposed by him to maintain that state of charge (analogous to that of a charged Leyden jar), said by Dr. Radcliffe to be common to both nerve and muscle when in a state of rest, and thus "to prevent action in the parts Faradised". The author believes that Faradisation of the spinal cord causes contraction of the blood-vessels by virtue of its staying the cerebro-spinal (inhibitory) nervous current, and thus allowing the stimulant current coming from the sympathetic ganglia to acquire preponderance. In the case of section of the spinal cord, electro-nervous discharge results, the cerebro-spinal nervous current acquires preponderance, and dilation of the vessels ensues. If the destruction be not in a vital point of the cerebro-spinal system, there is

nothing to prevent the sympathetic nervous current resuming its share of power when the discharge has passed off; this would explain the subsequent contraction of the vessels, which is constantly observed in experiments.

[If Faradisation of a nerve-centre "prevents action in the parts Faradised", the results of recent experimental investigation as to the functions of various portions of the brain-cortex are indeed "in a parlous state".—*Rep.*]

YANDELL ON TETANUS.—The results (*Brain*, October 1878) at which Professor Yandell arrives from a careful analysis of 385 published, and thirty unpublished, cases of tetanus are as follow:—

1. Traumatic tetanus is most fatal (in proportion to cases) during the first decade of life.
2. It usually supervenes between four and nine days after the injury.
3. The largest number of recoveries are found in cases in which the disease occurred after the lapse of nine days from the injury.
4. When tetanus continues fourteen days, recovery is the rule and death the exception, *apparently independent of the treatment.*
5. Tetanus arising during the puerperal state is the most fatal form of the disease.
6. Chloroform has, up to this time, yielded the largest percentage of cures in acute tetanus.
7. The true test of a remedy for tetanus is its influence on the history of the disease: *a.* Does it cure cases in which the disease occurred prior to the ninth day after the injury? *b.* Does it fail in cases whose duration exceeds fourteen days?
8. Tried by these tests, no agent has yet established its claims as a true remedy for tetanus.

FERRIER ON PAIN IN THE HEAD IN CONNECTION WITH CEREBRAL DISEASE.—Dr. Ferrier (*Brain*, Jan. 1879), while pointing out that the sensitivity of the dura mater is now firmly established, adduces many considerations which tend to show that the pia mater, though apparently insensitive, may become the seat of pain under conditions of disease. That those diseases are associated with intense headache, in which there is abnormal increase of the intracranial pressure, and thereby undue tension of the cerebral membranes, is amply justified by clinical facts. Acute pain may accompany brain-disease of an inflammatory nature, in which the inflammatory action does not implicate the dura mater, and before the tension of the membranes can have been appreciably increased by the products of inflammation. In such cases the pia mater must be regarded as the seat of pain.

The situation of the pain in the head most frequently corresponds to the position of the lesion in cases of cerebellar disease, or disease in the posterior fossa of the skull; this is less constantly the case in affections of the cerebral hemispheres.

Special attention is drawn by Dr. Ferrier to the value of percussion of the skull in cerebral disease, even when the patient makes no spontaneous complaint of pain in the head, as an aid in fixing the locality of cerebral lesions, more particularly those of the cortex. Numerous cases are given in which there was found to be pain on percussion over the cranial region corresponding to the situation in which, from other facts, a cerebral lesion had been diagnosed. No opportunity has at present occurred of confirming the diagnosis in any such case by *post mortem* examination, but the facts stated should certainly lead to a general adoption of percussion of the head in the localisation of cerebral disease.

OBERSTEINER ON EXPERIMENTAL RESEARCHES ON ATTENTION.—By attention, the author (*Brain*, January 1879) means that inhibitory power which is seen in every mental act, whether it be in the domain of sensation, volition, or intellect. On it depends all consecutive mental action, for without it we should be unable to check the tendency of our ideas to call up others by association and to run naturally along the most easy channels. The experiments were made with the psychodometer. The subject of experiment has to indicate by a movement of his finger the exact moment at which he perceives a sound emitted by the apparatus. The object was to ascertain the conditions by which attention is liable to be influenced, whether in normal or abnormal states of mind.

The degree of attention varies with the degree of culture. Persons of advanced age also react more slowly than others. The slight differences observed between the two sexes are ascribed to the occupation and mode of life of the male demanding more continued attention, and leading to a corresponding development of his inhibitory faculty.

The author's observations show clearly that the reaction-period is considerably prolonged by fatigue and by headache; also by any other sensory impression (*e.g.*, the playing of a musical box in the room, the galvanisation of some part of the experimentee's body).

In experiments made upon the insane, *increase of the minimum reaction period* always corresponded with grave organic degeneration of the brain, and was observed in dementia and general paralysis, even in its earliest stages. Those cases which did not show increase of the minimum period, but *great differences in the results of individual observations*, were such as were incapable of concentrating their attention, owing to the disturbing effect of various ideas and hallucinations to which they were subject, but in whom the functional activity of the brain was not impaired as regards rapidity.

JEWELL ON NEURASTHENIA OR NERVOUS EXHAUSTION.—A lecture on this subject, delivered by Dr. J. S. Jewell at the Chicago Medical College, is published in the *Journal of Nervous and Mental Disease*, January 1879. The author does not include under the term neurasthenia the temporary nervous exhaustion produced in a healthy person, and which may be rapidly recovered from. He confines the use of the word to the comparatively permanent exhaustion, due to various causes, and entailing, as a necessary consequence, a corresponding *loss of nerve-power*, and in most cases *morbid exaltation of nervous sensibility*. This disease is daily becoming more common, as people as a whole become more sedentary in habits, more intellectual in activities, more engaged by occupation or by culture, so as to augment the sensibilities at the expense of the forces or power of the nervous system. The symptoms fall into two great groups, *bodily* and *mental*; but this distinction, though convenient for practical purposes, is not a radical one, inasmuch as the same organic conditions underlie both classes of phenomena. These are summarised as follows:—

1. *Somatic or Bodily Phenomena.*—1. Exalted physiological sensibility, general and special, including reflex excitability.
2. Permanent lack of nervous power, including power of inhibition.
3. Beneath all this, impaired nutrition, in which there is more or less permanent preponderance of waste over repair, especially in the nervous structure of the body.

II. Mental Phenomena.—1. Exalted emotional susceptibility and mobility, especially in the direction of depression. 2. Loss of will-power or power of control, and, in general, not of mental *sensibility*, but of *power*, to do or endure within the sphere of mental life and action. 3. Underlying all of which are combined nutritional and circulatory lesions, especially of the brain, which impair the substance, diminish and render unsteady the exercise of the power of the brain, and finally exalts its sensibility.

SNELL ON "OLIGORIA".—In the *Allgemeine Zeitschrift für Psychiatrie*, Band 35, Heft 6, Dr. Snell, of Hildesheim, proposes the introduction of the word "Oligoria" to designate that condition of defective susceptibility to external influences which is observed in insane patients suffering from the most various forms of mental disease.

A large number of lunatics are quite unable to perceive their relationship to the rest of the world; their susceptibility to impressions from without is more or less in abeyance; they know not where they are, take no notice of persons around them, do not answer questions; they lead, in fact, a kind of dream-life, totally separated from past and present surroundings. Disregarding the lowest grades of idiocy, the above condition is seen in mania with confusion of ideas, in melancholia with stupor, in acute delirium, in bad cases of secondary dementia, and in the last stage of general paralysis. Various as are these morbid conditions with regard to their causation and symptoms, they have this point in common, that the patients affected by them are almost entirely withdrawn from the influence of the outside world, and their natural reaction to external influences is practically lost. It is strange that no word has hitherto been used in psychological medicine to express this abnormal condition which is common to so many forms of insanity. The word *unconscious* cannot be used in this sense, for it applies to quite a different condition (e.g., apoplectic coma). *Anesthesia* would be a more suitable term, were it not already universally recognised as relating only to loss of *bodily* sensation. The great objection to the word *apathy* is that, being frequently used in the language of every-day life, its signification could not be limited to the condition under discussion, and precision is of great importance in a technical term.

Under these circumstances, the author proposes the use of the word "Oligoria". *Oλίγροια* is a good Greek word, which means "lightly regarding" or "defective observation". Of course it did not originally signify all that it is now intended to express by it; but this could not be expected, and is, in fact, not the case with many other terms used in psychology. It is suggested that the word may also conveniently be used in the form of an adjective, and a patient be spoken of as in an "oligoric" condition.

FULLER ON TREPHINING THE SKULL FOR IDIOCY.—Dr. Fuller reports a case of this kind in the *Canada Medical Record* for April 1878. The child's birth was difficult; on the day succeeding it convulsions came on, and lasted several days. At two years old the skull was small, but symmetrical; the fontanelles were closed, the circulation sluggish, the face expressionless, the eyes divergent and turned upwards, the tongue habitually protruding; the right arm was constantly flexed and pressed to the side, while the hand was firmly closed. During sleep, this muscular spasm relaxed. The child never masticated, and was very apt to choke. She was indifferent to per-

sons, but could perform one or two limited automatic actions when told.

Compression of the brain from early consolidation of the bones of the skull was diagnosed; and, in order to relieve the pressure on the circulation, a circular piece of bone, 1½ inches in diameter, was removed from the left parietal bone, just in front of and above the eminence. The dura mater bulged excessively, and it was feared that its pressure upon the inner margin of the opening might lead to its sloughing. The brain pulsated strongly. While still upon the operating table, the child was threatened with asphyxia. The immediate effects of the operation are reported to have been that the patient became warm over her whole body, and began to stretch out her contracted arm and hand, while her eyes became more parallel and steady. In a month's time she was able to distinguish individuals, knew and cried after her mother. [The author stated above that the child before operation would strike her mother when told to do so.] In five weeks, another portion of bone was removed from just behind the first. The eyes became now nearly parallel, but a spasm of the peronei muscles remained unimproved. In two months considerable improvement was noted, and it was said that the patient had made some attempts to talk.

[More potent arguments than those contained in the above paper, and much more favourable results than those at present reported in the case, will have to be put forward before trephining the skull can become a recognised treatment for the cure of idiocy.—*Rep.*]

MOREAU ON INTELLECTUAL DISTURBANCE CAUSED BY HUNGER.—In the *Gazette des Hôpitaux*, No. 55 for 1878, Dr. Moreau states that extreme hunger may affect the nervous system in such a way as to give rise to peculiar hallucinations, or, in other cases, to weaken the intellect to such a degree that the person affected can no longer be held responsible for the results of acts committed while in that condition.

RAGGI ON CLITHROPHOBIA.—In the *Gazette des Hôpitaux*, 1878, No. 49, Dr. Raggi describes under this name a mental affection in which the patient cannot endure being within any enclosure; he will endeavour, at any price, to escape; the mere fact of his being in a limited space causes him the greatest mental disquietude. A case of the kind is related. The affection appears to be a parallel one to that described first by Westphal, and afterwards by Le-grand du Saulle, under the name of agoraphobia. Dr. Raggi recommends, by way of treatment, in addition to avoidance of exciting causes, a roomy dwelling and outdoor employment.

SIEMENS ON EPILEPTIC SLEEP AND SLEEP IN GENERAL.—In a paper read before the Verein der Deutschen Irrenärzte (*Allg. Zeitschrift für Psychiatrie*, Band 35, Heft 5) Dr. Siemens contends that, in many cases, the sleep which follows an epileptic fit should be regarded as a part of the fit; or that the convulsive attack passes directly into a "fit" of sleep. In addition to recorded cases in which the epileptic attack took the form of an irresistible tendency to sleep, many other considerations point to an intimate relation between epilepsy and sleep. The following are mentioned: the extreme fatigue and tendency to sleep both before and after epileptic fits, and the oc-

currence, in many cases, of fits only while the patient is asleep.

After reviewing at length the various physiological and pathological conditions which influence the occurrence of sleep, the writer gives the following opinion as to the causation of sleep. All our knowledge of the subject leads to the conclusion that sleep is due to the activity of certain circumscribed parts of the brain, which form an inhibitory centre, and which are situated in the medulla oblongata, near to the convulsive centre. In support of this view, the above-mentioned connection between sleep and epilepsy is alleged. The inhibitory sleep-centre stands in direct antagonism to the cerebral cortex; if the one is in a state of activity the other remains passive; the former can only exercise its function when the cortical substance is either inactive or nearly so. Sleep is much more easily induced in childhood, as the convolutions of the brain are at that time only partially developed. Sleep is also much more frequent and continuous when the cortical substance has degenerated, as in paralytic dementia; when its nutrition is faulty, as in anæmic conditions; also when it is to some extent paralysed by the action of hypnotics or by excessive cold. On the other hand, no sleep can be obtained when the cortex is in a state of activity, due to strong psychic impressions, excesses, alcoholism, or any form of mental disease. When, owing to some morbid condition, sleep has been absent for a length of time, the products of fatigue must have been generated in the body in large quantities, but still the hyper-activity of the cortical substance prevails and prevents the occurrence of sleep.

There is nothing characteristic of each of the various forms of pathological sleep, except their mode of origin: the condition of the pupils, as observed by Ræhlmann and Witkowski, is the same in all forms of sleep; they are contracted during sleep, and only react to a very slight extent; great dilatation takes place at the moment of waking, but this quickly gives place to their normal condition.

C. S. W. COBBOLD, M.D.

LEGRAND DU SAULLE ON THE PHYSICAL SYMPTOMS OF THE "FOLIE RAISONNANTE". It is well known that this peculiar form of mental disease consists in the patient having retained the greater part of his reasoning powers, while his powers of sensation are entirely perverted. M. Legrand du Saulle, a well-known psychologist and medical director of the Bicêtre, has published lately a pamphlet on the subject of the physical signs which form the characteristic peculiarities of this affection.

According to Dr. Campagne's observations, twelve out of thirteen patients suffering from "folie raisonnée" presented a flattening of the posterior region of the skull. M. Legrand du Saulle has only found this deformity in half the cases. It would be interesting to know how many healthy individuals present the same abnormality. However, the author looks upon it as one of the most important physical symptoms of the above-mentioned disease. He adds, also, that we often meet in reasoning lunatics asymmetry of the face, twitching of the features; partial choreiform contractions, either of one muscle or of some of the groups of muscles of the face or the eyelids, strabismus, nystagmus, a large mouth, thickening of the lower lip, irregularities of the teeth, asymmetry or narrowness of the palate, a rapid and precocious loss of the teeth, total absence of the sense of taste, asymmetry or abnor-

malities in the shape of the outer ear, certain temporary or periodical phenomena of hyperæsthesia or anæsthesia—such as hemiplegia, neuralgia, gastralgia, etc.; also certain anomalies of the genital organs, of the penis, testicles, vagina, and uterus, especially when the three latter organs are deficient; in cases of club-foot, deformation of the hands, stammering, deaf-and-dumbness, cretinism, microcephaly, macrocephaly, hydrocephaly, rachitic malformations, etc. Another very important symptom is hereditary predisposition.

He also draws particular attention to mental troubles, which are apt to occur at the time of puberty, such as a tendency to insubordination and vagrancy, erotomania or the sudden arrest of some precocious talent which had given rise to the highest hopes and expectations. Those unhappy sufferers who are thus predestined to end their lives in an asylum, present, in addition to the above-named troubles, the peculiarity of being at times in the full enjoyment of such mental faculties as they possess, while at other times their mind is decidedly affected. This is owing to periodical congestions of the brain, and may tend to mislead physicians who, having examined the patient, perhaps only during his lucid intervals, may consider him sound in his mind, whilst other medical men who see him during his periods of temporary insanity, may come to a different conclusion.

MEDICAL JURISPRUDENCE.

KUBY ON A GUN-SHOT WOUND OR STAB, INVOLVING THE LUNGS, PERICARDIUM, AND AORTA (SCHUSS ODER STICH? DURCH LUNGE, HERZBEUTEL, UND AORTA. Friedreich's *Blätter*, March and April, 1879.)—The dead body of a labouring man, aged 25, was found about ten or twelve paces from the high road. On a general examination, there was found on the left side of his chest in front, about the level of the second rib, and directed towards the sternum, a penetrating wound as from a stab, but with scarcely any effused blood about it. The police-surgeon who made the examination came to the conclusion that this wound could not have been the cause of death; but he could find no other wounds or marks of violence about the body. A judicial inspection was subsequently made, with the following results.

Externally.—Near the second rib in front, and 0.09 m. (about three and a half inches) from the median line of the chest, there was a roundish or oblong aperture 0.007 m.* (about one quarter of an inch) in diameter, corresponding to holes of a similar form and size in the vest and shirt. The coat and vest were slightly stained with blood. There was a blueish red discoloration in the skin surrounding the wound. There were some spots of cadaveric lividity about the body, but no other mark of injury.

Internally.—There was much blood effused in the muscular substance in the neighbourhood of this wound, and a quantity of bloody fluid escaped on

* It is here presumed that the letter m represents a metre, corresponding to 39.37 inches English. It is unfortunate that, while in German medico-legal reports, the most trivial details, such as the colour of a coat, or the material of a waistcoat, are minutely described, important matters, involving measurements of wounds, etc., are left obscure or unexplained. The wound in this case is described in one part to have a diameter of 0.007 m., and a depth of 0.003 m. This is as if an English writer described the diameter of a wound in decimals of a yard!

opening the chest. The wound itself passed below the edge of the second left rib, taking a direction from above downwards, and penetrating the cavity of the chest. The second left rib, near its junction with the cartilage, had been perforated, and two fragments of the size of peas had been separated from the bone and were lodged in the soft tissues. The parts surrounding the wound had a bloody appearance. The left cavity of the pleura was filled with a large quantity of blood, partly liquid and partly coagulated. The left lung was collapsed. At the inner edge or border of the upper lobe, where it covers the ascending aorta, the substance of the lung was perforated, the aperture being about the size of a large pea. A sound penetrated through this into the cavity of the pericardium. The wounded lobe of the lung was much congested with dark-coloured blood, but the remaining portion was healthy. In the cavity of the right pleura there was a quantity of coagulated blood. The right lung was healthy, and distended with air. The pericardium was filled with dark-coloured blood. On the upper and left side of this membrane, in a situation corresponding to the wound in the left lung, there was a hole of the size of a pea surrounded by a dark stain of blood. There was a small aperture (0.005 m.) in the pulmonary artery on the left side where it springs from the right auricle, and beyond its division a continuation of the wound into the ascending aorta. A more minute examination showed that the aorta was wounded at a part corresponding to the semilunar valves, and that the wound was triangular in form. The organs in the abdomen presented nothing abnormal.

The conclusion drawn from this *post mortem* examination was, that deceased had died from a stab involving the lung, the pulmonary artery, and aorta, and that death had taken place instantaneously. A narrow-bladed sharp-pointed dagger or sword, used with considerable force, might have produced this wound. Looking at the situation and direction of the wound, it was considered highly improbable that deceased could have inflicted it on himself. It bore the characters of an act of murder, perpetrated by another.

Every effort was made to discover the person who had committed this crime, but without result. At length a man came forward and confessed that he was guilty of causing the death of the deceased for a motive assigned; that he did not stab him, but shot him in the left breast with a revolver while he was lying asleep on the grass. This confession received strong confirmation from the fact that two rings were found on the deceased which had been given to him by the accused. The revolver with which the murder had been perpetrated was also forthcoming. But then, if this were true, how came it to pass that the medical experts had described the fatal wound as a *stab*, and had actually specified the kind of dagger or sword which would have produced it?

In consequence of the medical opinion being thus in conflict with facts, a re-examination of the body was ordered, and the clothes of the deceased underwent a more minute inspection. On the left breast of the coat worn by deceased, in a part corresponding to the wound in the chest, there was a hole almost a quarter of an inch in diameter. It appeared as if produced by a punch, but with irregular edges. The vest with its lining presented a corresponding aperture, and the lining was slightly stained with dried blood. According to the con-

fession made, a six-shot revolver had been used. The bullet was cylindrical, about a quarter of an inch in diameter, and weighing rather less than forty grains. The experts performed some experiments with this revolver, selecting for this purpose an old coat similar to that worn by the deceased. The results of these experiments, as well as a reconsideration of all the medical facts, led to the following conclusions. 1. The wound in the left breast of deceased presented the usual appearances of a stab, but its characters were consistent with its having been caused by a shot from a revolver like that produced; 2. The wounds were of a very unusual kind; 3. The perforations in the clothes, with the marks around them, are such as might have been produced by a shot discharged near to the person; 4. The wound was necessarily mortal, and, probably, caused death in a few minutes.

The correctness of this second opinion was confirmed by the discovery of a conical bullet about the third of an inch in diameter, firmly imbedded in the left side of the eighth dorsal vertebra.

[This case is of practical importance, as showing how easily a gun-shot wound from a small conical bullet may be mistaken for a stab; and, further, that the only certain mode of detection is to search at once for the projectile if it has not traversed the body, as it is only under these circumstances that the examiner would be likely to make a mistake. The absence of marks of burning or singeing of the clothes, and the apparent termination of the wound in the aorta, no doubt misled the examiners in the first instance. In reference to the first point, the results will depend on whether a revolver has been discharged close to the person or some inches off. The experiments performed showed that, at a greater distance than four inches, there were no marks of singeing produced in the dress. As to the second point, it is clear from the subsequent discovery of the projectile, that the search for it had not been carried far enough at the first examination.]

WEISS ON THE DEATH OF AN INFANT FROM SUFFOCATION (TOD DURCH ERSTICKUNG. *Friedreich's Blätter*, March and April 1879.)—A drunken man went to bed with an infant four months old. In the morning the child was found dead; it had vomited, but there was no mark of violence about it. The account given by the drunken father was that he took the child on his right arm and then fell asleep. On awaking in the morning, he found himself lying on his back with the child apparently lifeless on his right side. The child was really dead, but its body was still warm. He could not explain how it came by its death, but supposed that, during the night, the child had turned round upon its face and had thus been suffocated. He had gone to sleep with it lying on its back, and resting upon his arm, but in the morning he found it lying on its belly. He had not heard it cry, and did not know that it had vomited. It was possible that while sleeping he had turned over on his side and had thus unconsciously pressed the mouth of the child against the clothes.

A judicial inspection of the body was made two days after death. There were slight discolorations on the skin of the abdomen and on the left knee. The conclusion drawn by Dr. Weiss from an inspection of the body was, that the child had died from suffocation, chiefly on the following grounds. *a.* There was a quantity of dark-coloured fluid blood in the vessels of the brain, on the right side of the

heart, and in the great venous trunks of the chest and abdomen. *δ*. A general congestion of the liver, kidneys, lungs, and other organs. The mucous membrane of the trachea was much injected. As a result of the violent efforts made to breathe, there was a quantity of bloody froth in the trachea and the air-passages. There was a large number of minute sugillations, resembling flea-bites, scattered over the pleural surface of the lungs and the pericardium. These are described by Casper as being present in the bodies of infants who have died from suffocation while being suckled by their mothers in bed. Other small sugillations, as if produced by a feather dipped in red ink, were found not only on the surface of the two lungs, but on the surface of the heart and on the pericardium (subpleural ecchymoses). No other cause of death was found in the body, and, as the appearances were such as are met with in death from suffocation, it was reasonably inferred that the child had died from this cause.

The question was then considered, how far the father was responsible for the death of the child, *i. e.*, whether the suffocation was the result of accident or criminal intention.

Dr. Weiss makes some observations on the mechanical causes, external or internal, which produce suffocation; also the dynamic causes, including all forms of violence, which lead to this kind of asphyxia. Into these it is unnecessary to enter. There is nothing inconsistent in the statement of the father with this death having been the result of accident; the infant having been turned accidentally during the night with its face to the clothes, and not having the power to change its position. This led to a mechanical hindrance to the penetration of air into the lungs, and to death from the circulation of un-oxidised blood. The absence of marks of violence on the body of the child, favoured this theory of the mode of death. It was further corroborated by a number of cases in which infants have been found dead under similar circumstances on the breasts of their mothers. The women have taken the children to bed with them, have fallen asleep with the child closely applied to the breast, and, under these circumstances, it has perished from suffocation without a cry or a struggle.

[It is a fair question whether, in some of these cases in which drunkenness is clearly proved, the parent should not be charged with manslaughter, the act being one of culpable carelessness.]

WEISS ON MEDICO-LEGAL INSPECTIONS: DEATH FROM RUPTURED ORGANS (GERICHTLICHE LEICHENÖFFNUNGEN TOD DURCH ORGAN-RUPTUREN. Friedreich's *Blätter*, March and April 1879.)—A child, aged 5, was run over by a cart which was being driven quickly with three persons in it. Blood escaped from the mouth and nose of the child, and death took place in a few minutes after the accident. A general examination of the body at the time showed that there were no marks of violence externally, but, towards the lower part of the back on the left side there was a colourless depression on the skin, such as might have been produced by the wheel of a cart going over the body.

An inspection was made some days after death, when the following appearances were found. *a*, there was a perpendicular laceration in the upper lobe of the right lung; *δ*, the spleen was torn across in two halves; and *c*, in the cavity of the chest there were four ounces, and in that of the abdomen twelve ounces, of thick dark-coloured blood. These lesions

were such as would be certain to prove fatal—it might be in a few hours, or, as in this instance, in a few minutes.

The lungs had their natural colour and appearance. The lacerated lobe of the right lung was of a dark colour, owing to the compression which it had undergone by the force applied to it. This, also, accounted for the dark colour and the brittleness of the spleen. There was nothing in the condition of these organs to show that they were in an unhealthy state, and, therefore, liable to rupture from slight causes.

But healthy organs are easily ruptured by such a force as was applied on this occasion. The immediate flow of blood from the mouth and nose, and the depression over the back, showed that violence had been directly applied to the body of the child, causing laceration of the lungs and spleen, sufficient to account for the rapid death.

[There was no sufficient ground to dispute the cause of death in this case, or the mode in which the fatal ruptures had occurred. Had the body of this child been examined by persons who had not known the circumstances, it might have been doubted whether it had been run over at all. There was evidence, however, from eye-witnesses, that the two right wheels of the cart had actually gone over the body, but, excepting the presence of a colourless depression on the skin of the back, there was nothing to indicate this. There are many cases of ruptured organs described by surgical writers which clearly show that laceration of the skin and ecchymosis are not necessarily found on these occasions. The force is applied and withdrawn so rapidly that the small capillary vessels of the subcutaneous tissue escape rupture. The case is instructive by showing that great violence may be applied to the cavities sufficient to rupture important viscera, and cause rapid death without leaving any indication externally.]

A. S. TAYLOR, M.D.

MEDICAL CHEMISTRY.

LEUBE ON PHYSIOLOGICAL ALBUMINURIA.—Prof. Leube (*Virchow's Archiv*, Band lxxii, Heft 2) found that out of 119 healthy soldiers 5, or 4·2 per cent., had albumen in their morning urine; while 19 out of 119, 16 per cent., had albumen in their midday urine, after marching or parade. There were no casts or blood corpuscles; the chief deposit was urates. The specific gravity showed no constant results. Those soldiers in whom albuminuria was found were carefully examined, and were found to be quite free from pathological changes. The albuminous substance was discovered in the ordinary way, by boiling and acetic acid, but gave the reactions of serum albumen when separated and subject to other tests.

UNNA ON ALBUMINURIA FROM STYRAX INUNCTION.—Dr. P. Unna (*Virchow's Archiv*, Band lxxiv, Heft 3), referring to Lassar's case of albuminuria and dropsy after petroleum inunction (*LONDON MEDICAL RECORD*, 1878, pp. 163-4), says he tested the urine of 124 persons who were being treated for scabies, by the inunction, every morning or evening, of a liniment composed of styrac. liq., ol. rapar, aa pp. x, spirit. p. i. They were generally young, strong, and healthy subjects. He used

boiling and nitric acid for his tests, and he noted albuminuria only in those cases in which a thick flocculent precipitate of from $\frac{1}{4}$ to $\frac{1}{2}$ of the volume of the fluid settled on cooling. Out of these 124 cases there were nine of copious albuminuria. In four of the cases there were other pathological conditions present—valvular disease of heart, hypertrophy of heart (2), glandular abscess. In every case the albuminuria was transitory. The author believes the albuminuria was due not to the action of the styrax on the skin, but to the effect of the drug absorbed into the blood upon the kidneys themselves. He suggests that the transit of a large quantity of abnormal material of high atomic weight through the renal capillaries makes them, sooner or later, permeable in certain individuals for albumen molecules.

ROBERT SAUNDBY, M.D.

ESTIMATION OF SUGAR IN URINE.—Dr. Pavy has kindly lent us an apparatus for testing the quantity of sugar in urine according to the new method which he has lately communicated to the Royal Society. We have three cases of diabetes in the ward, so that although we have only had the apparatus a short time, it has been in daily use, and we can fully testify as to its greater accuracy and convenience as compared with the old method.

Appended is a practical account of the apparatus and mode of use.

It consists of two upright graduated tubes, each capable of holding 100 C.C., fixed in a double retort stand. In one is placed an unlimited quantity of ammoniated copper solution for measuring purposes, and in the other 100 C.C. of urine, diluted to 1 in 10 of water. Affixed to the urinal burette by an india-rubber tube compressed with a spring clamp, acting as a cap, is a small flask, containing 40 C.C. of the copper solution, measured off from the graduated tube, with a double perforated cork; through one aperture passes the urine, and the other allows the escape of the ammonia, which for convenience sake is conveyed by an india-rubber tube into an acid solution. The flask is now heated with a spirit lamp until the copper solution just boils, and by the aid of the spring clamp a few drops of urine are admitted. The solution is kept gently boiling, and the drops of urine continually let in until the colour is completely lost, which may be best detected by keeping a sheet of white paper behind the flask. It should be noted that as soon as the colour begins to fade the drops should be let in more slowly. The quantity of diluted urine used is now measured off from the graduated tube, and the quantity of sugar calculated, thus:—Divide 2 into the amount of dilution (which in all cases should be at least 1 in 10) by the number of cubic centimetres of diluted urine required to decolorise completely the fluid in the flask. This gives the percentage of sugar. To find the number of grains per ounce of urine, multiply the dividend by 4.375. Thus, supposing the amount of dilution be 1 oz. urine to 10 oz. water, and the quantity of diluted urine used for complete decolorisation 5 C.C., then $2 \times 10 \div 5 = 4$, is the per centage of sugar in the urine; and $4 \times 4.375 = 17.5$ or $17\frac{1}{2}$ grains of sugar per ounce.

REACTIONS OF BILE ACIDS AND THEIR DETECTION IN URINE.—A solution of the bile acids (*Zeitschrift Anal. Chem.*, 18, 128), if oxidised by the addition of ferric chloride, antimonious chloride, lead peroxide, barium peroxide, with the addition of hydrochloric or sulphuric acid, especially if exposed to

direct sunlight, passes through a variety of colours, from yellow, red, vinous red, to blue and blue-violet. Similar colours are produced by the addition of stannous or antimonious chlorides along with sulphuric acid. Casali takes advantage of this play of colour for the detection of bile acids in urine. The urine is precipitated with sugar of lead and ammonia, the precipitate treated with ether and dilute hydrochloric acid, and the ethereal extract is drawn off and evaporated in three porcelain capsules at common temperatures. To the first residue are added barium peroxide and sulphuric acid; to the second tin crystals and sulphuric acid; and to the third antimonious chloride and sulphuric acid.

REVIEWS.

Anéurysme Traumatique de la Carotide: interne droite, siégeant dans le Canal Carotidien. Dr. F. SCHALKBAUR. (*Gaz. Méd. de Strasbourg*, 1879, No. 3.)

This is a *thèse* or essay for a doctor's degree; and, considered as a juvenile essay on a very interesting and not very common affection, it may pass muster. Otherwise we might say that the chief importance of the paper would be to show how strong a hold the method falsely called statistical has on the mind of the medical profession, especially in Germany. The paper before us relates with much detail one of those puzzling cases in which after a blow on the head (followed in this instance by very severe head symptoms) there appeared exophthalmos, accompanied by some apparent loss of power of the external rectus muscle of the eye, some congestion of the conjunctiva, a double bruit (*i.e.*, a continuous murmur, mixed with an intermitting whizz), and no affection of vision whatever. In such a case, as Dr. Schalkbaur very properly concludes, the most probable inference is that the carotid artery has been injured in the cavernous sinus (and we venture to think that the substitution of this term for carotid canal in the title of the paper would be an improvement), and that the sixth nerve is either compressed or simultaneously injured, while the venous sinus may or may not have been laid open. But we should not forget that the inference is only a probable one, and that many of these cases either recover spontaneously, or remain in a condition which the patient finds perfectly tolerable for an unlimited period. So that in discussing the treatment to be adopted, the progress of the case, *i.e.*, the increase or otherwise of the protrusion of the globe, the extent of suffering caused by the noise in the head, the amount of relief which the patient can obtain by rest or by intermittent compression of the carotid, and the increase or otherwise of his power of exerting himself mentally or bodily, is the first thing to be considered, and a mere enumeration of the percentage of cases in which success is claimed for one or another method of treatment is not only superfluous, but misleading, since the cases which were (in many cases most fortunately for the patient) left alone are sure to be omitted from the calculation; whilst in many of the cases where the ligature of the carotid is said to have succeeded, we have no real assurance that the symptoms did not recur, as they are known to do sometimes after an interval of apparent cure. That very many of these cases may be safely left to themselves is the strong conviction of the present writer,

and seems the growing opinion. The present case proves nothing in regard to treatment, since the publication (probably from the exigencies of the degree examination) was premature. The author cites numerous authorities, but without any references (an evil habit too common on the Continent). We should suspect that he takes his authorities at second hand from some abstract or year-book, since he credits Mr. Rivington with being the first to discover by *post mortem* examination, and to call attention to the fact that some of these tumours are formed by communication of the carotid artery with the venous sinus. As Mr. Rivington's valuable paper is almost painfully conscientious in its references to all the original authorities, such a mistake seems impossible to anyone, even a foreigner, who had even consulted the original, far less perused it with the attention which it merits. On the whole, we can say but little about this case, except that it belongs to so interesting a class, and one on which the opinion of surgeons is still unsettled, that it deserves a more complete record, and we hope will receive it.

T. HOLMES.

On Aneurisms of the Dorsal Artery of the Foot.
By Dr. DELORME, Prof. Agrég. du Val de Grâce.
(*Gaz. Hebdomadaire de Méd. et de Chir.*, Feb. 28, 1879.)

This is an interesting essay on a subject at present little noticed or understood. Dr. Delorme is correct in saying that the classical authors on surgery have said little or nothing hitherto about it. Yet as the present paper contains references, more or less complete, to fourteen cases, seven of which have been published within the last ten years, it is clear that the subject is one which is worthy of the attention of surgeons, and more especially since the affection is by no means a trifling one, nor is the treatment easy. Out of ten cases where the result is given, two were fatal, and amputation was practised in another, while several of those who were cured had alarming hæmorrhage. It seems clear enough that these aneurisms are usually of a mixed nature, partly traumatic and partly spontaneous, due that is to say, to a shock, such as a sprain or blow acting on an artery already somewhat degenerated; and the same is the case, we doubt not, with the great majority of all aneurisms. Some aneurisms of the dorsalis pedis are of course purely traumatic, and in these cases there is little room for doubt as to the treatment. After a proper trial of direct and indirect pressure, the case should be treated like a recent wound of the vessel. In the so-called spontaneous aneurisms (in which, however, as above stated, traumatic injury is often the real exciting cause) the question is less simple; and our present experience is hardly, as yet, sufficient to solve it definitely. Dr. Delorme lays considerable stress on the distinction between cases where the tumour is, and those where it is not, inflamed—a distinction which we own would not have struck us as being one of very frequent importance. The most surprising thing to us in Dr. Delorme's teaching is the curt decision with which he rejects the idea of direct compression. He merely says, on this head, "Direct compression is to be rejected." We should have thought (subject, of course, to future experience) that such cases were, of all others, the most promising for the treatment by Esmarch's bandage. It is quite true that in some of the cases here collected this treatment failed. But then all methods of pressure must be expected often to fail in aneurisms of

this artery, which are very small relatively to the large size of the anastomosing or reflux stream coming into the lower part of the sac through the plantar arch. This, however, is no reason for not giving a fair trial to compression, and we confess that, in spite of Dr. Delorme's prohibition, we should be disposed to employ compression in the form of Esmarch's bandage. Failing this, in appropriate cases, perchloride of iron may be injected. But there can be no doubt, in our opinion, that Dr. Delorme is right in saying that the old operation, by splitting the sac and securing both ends of the vessel, is in most cases to be resorted to early; and we believe he is also right in recommending the surgeon in many cases to dissect the whole sac away, taking care not to injure the joints or sheaths of the tendons. We commend this interesting little *brochure* to our surgical readers.

T. HOLMES.

La Fontaine d'Achusquy. Par le Dr. PAUL RECLUS.
Paris: 1878, pp. 30, 8vo.

Bad Antogast in Renckthale. Lahr: 12mo, p. 40.

Bad und Kurort Lenk in Berner Oberland. Von Dr. A. TREICHLER, KURARZT, und ERNST BUSS PFARRER. Bern: 1877, 8vo., pp. 58.

Analyse des Eaux Minérales de Challes. Par M. ED. WILLM. Paris: 1878, 8vo., pp. 7.

Les Eaux de Salins-Moutiers. Par le Docteur C. LAISSUS. Paris: 1877, 8vo., pp. 30.

Du Traitement de l'Obésité aux Eaux de Brides. Par E. PHILBERT. Paris: 1876, pp. 16.

Few English, probably, have ever heard those names of places forming the heading of this article. All of them, for the present, have only a local reputation.

The first of them lies in a remote valley, among those curious people the Basques, whose language continues to be a puzzle to students of philology. It has been lately visited by Dr. Paul Reclus, who has favoured us with his impressions of the place, and gives us some account of the customs and superstitions of its inhabitants. The visitors, two or three hundred in number, are almost all people of the district. The accommodation is rough and scanty, and the only good thing to be had is mutton; but that is very good.

The water possesses scarcely any mineral constituents; yet Dr. Reclus is satisfied that it produces many cures, especially in dyspepsia (in spite of the rough diet) and in gravel and cystitis. Those cures are undoubtedly effected by these waters, as by other indifferent ones at other places. To produce their curative effects, the waters are drunk in quantities of from 12 to 20 pints daily. The waters are not used for bathing. On the whole, our author writes more to make the best of his account of his visit, than as having faith in the future of Achusquy. If the water acts, as is probable, simply as a diluent, we may have water cures without going to Achusquy.

The next bath on our list, though now little known to fame, is a small quiet spot in the Black Forest, which was three hundred years ago more in vogue than its neighbours, Petersthal, Griesbach, and Rippoldsau. Its waters are much the same as those of the places just mentioned, with perhaps a fraction less of iron. They are good acidulated chalybeates, containing in 10,000 parts about seven parts of carbonate of soda, and the same of carbonate of magnesia and of lime each, and as much

of sulphate of soda. The iron amounts to '3935 of a grain. The waters are mildly alterative and tonic, very useful in convalescence, in dyspepsia, and in anæmic conditions generally, especially in mucous catarrh and disorders of the female system. Antogast is a comfortable, old-fashioned place, in a beautifully wooded, hilly country, at an elevation of 1800 feet. Living is cheap, and the place is altogether well suited for systems exhausted and needing repose.

The virtues of Lenk, and the beauties of its neighbourhood, as well as its Fauna and Flora, are well described in the handsomely-printed *brochure* which is third on our list. It is only of late years that the cold sulphur waters of Lenk have been known. They must not be confounded, as they constantly are, with the warm sources of Leuk, Leukerbad, or Loeche, the singular bathing arrangements of which place continue to be described by every fresh traveller. The waters are among the strongest sulphuretted ones in Europe; and of late years a very comfortable bathing establishment has been formed, in which there is an ample supply of baths heated by hot water pipes, and where there is the usual apparatus for inhalations, which is found in all French and most German sulphur baths.

The springs of Lenk are near the head of the valley of the Ober Simmen Thal, which is bounded by the mountain wall and the glaciers of the Wild Strübel. The residents in the bath-house may view at a distance the cataracts descending from the rocks, or proceed to scan them more closely, if strong enough for a rough walk. There are several excellent nearly level roads, especially the one running up the Iffigen valley to the fine waterfall of that name. For mountain climbers there is a great variety of expeditions. The cases treated here with most effect are those of dyspepsia, chronic and neuralgic rheumatism, and cutaneous affections; there have also been some remarkable cures of furunculosis after a bath or two; and one of the specialties is the treatment of throat and laryngeal affections by inhalation. Cases of phthisis are not treated here, but resort chiefly to Weissenburg, fifteen miles lower down the valley. It possesses an immense establishment in a thickly-wooded ravine, or rather two, for the older establishment is still kept up for second-class patients. Some 700 or 800 phthisical patients flock every summer to this place, which is indeed the favourite resort of Swiss patients, the contingent at Davos consisting much more of German, English, and other foreigners, than of Swiss. Whatever may be the remarkable effects of a winter residence at it, Davos has nothing in particular to recommend it during the summer season; and local doctors remark, that they have known cases of phthisis, supposed to have been cured by a winter at Davos, die next summer at Weissenburg. The waters have no important mineral constituents. They contain a trifling quantity of sulphate of lime, and are of the temperature of about 88°. While we wonder how such waters, or the similar ones of Lippspringe, have curative effects in such cases, we may remember that for a long series of years, most of the consumptives of England were sent to drink the analogous lime waters of the Hotwells at Clifton, which are now utterly forgotten. Has the imbibition of luke-warm water, containing a little lime, any curative effect in phthisis? Abroad, doctors and patients have great faith in them,—a confidence which is not felt by English medical men. Dr. Bennett, of Mentone, has recently suggested

that such wells obtain their reputation because their doctors are appointed by Government, and because each man must write up his own station to attract patients. But this is obviously an inadequate, as well as an unfair explanation. Only certain classes of waters are at present recommended in phthisis—weak alkaline, weak lime and some sulphuretted ones. No one now prescribes chalybeates in phthisis, although Morton, Willis, and other great English authorities, used to recommend them.

In the neighbourhood of Aix les Bains there are several mineral waters which are now attracting notice. M. Willm gives us the latest analysis of the remarkable sulphur waters of Challes, which is close to Chambéry. There is now a comfortable establishment at that place, and Dr. Cazalis has written on the therapeutic application of its waters.

Less known, but well worthy of the attention of the English, are the warm saline baths of Salins-Moutiers, and, within three miles of them, the tonic aperient waters of Brides. The French balneologists are much in want of purgative waters for their patients. If it be, perhaps, too much to say that the waters of Brides are equivalent to those of Carlsbad, still they are most useful ones. The waters of Salins ought undoubtedly to produce every good effect that can be procured at Kreuznach or at Nauheim. The fine Alpine scenery of the two Savoy baths is greatly in their favour, and, in another year, they will be readily accessible by railway.

J. MACPHERSON, M.D.

Die Krankheiten des Magens. By H. LEBERT.
Tübingen, 1878.

This, the latest work upon diseases of the stomach, will compare favourably with the many good monographs that have gone before it. The author seems to be at home in his subject, and deals with a large amount of material, partly his own, from the *Breslau Clinique*, and in part derived from the collation of various other writers. The scope of the work will be best indicated by giving a short sketch of the various chapters, eight in number.

The first treats of acute inflammatory and infective diseases of the stomach, which include acute indigestion; acute painless catarrh; infective acute febrile catarrh; acute inflammatory catarrh, or acute gastritis; suppurative or phlegmonous gastritis; croupous or diphtheritic inflammation; and inflammation due to the introduction of poisons or "toxic gastritis". Next come the various forms of gastro-intestinal derangement associated with diarrhoea; cholera-Europea; cholera infantum; and the chapter concludes with softening of the stomach and tubercular gastritis. Under the head of gastric fever, styled by the author infective, reasons are given for holding that there is a disease characterised by the symptoms which are indicated in the name, quite distinct from typhus, typhoid, and intermittent fevers. It is distinguished from typhoid fever particularly by the absence of the more typhous physiognomy, the absence of swelling of the spleen, of roseola, and ileo-cæcal pain. We may confess, however, that the distinction here made by the author appears to be one of those, may we call them clinical impressions, which are not demonstrable by facts. We get no clear definition of "acute infective catarrh of the stomach", or gastric fever, as we may call it, to give it our English synonym, to separate it from typhoid fever on the one side, and a simple, or non-infective acute gastric catarrh on the other. So that we think

the introduction of the term infective is calculated to lead to some obscurity in the reader's mind.

The second chapter treats of chronic catarrh of the stomach, which is divided etiologically into a primary and secondary form. Some interesting tables are given to show its relative frequency in the two sexes, and at various periods of life. At the Breslau Policlinik, 785 cases were observed in 30,000 sick. The symptoms are all fully discussed; its pathological anatomy, the differential diagnosis, prognosis, and treatment. The directions for treatment are very good, comprising diet and hygiene, blood-letting, sedatives, alteratives, anti-fermentatives, antacids, digestives, aperients, etc. We notice, too, that the author more than once recommends Nestlé's food as the best for children, when good milk cannot be procured.

Next follows a chapter on the neuroses of the stomach, divided into abnormal nutritive requirements, or dysorexia, which includes polyphagia, or boulimia, and heterophagia; disturbances of sensibility, such as the neuralgic pains and cramps; disturbances of the motor apparatus; eructation and rumination (mercismus), and complex neuroses, which are grouped as hysterical and neuro-secretory.

The fourth chapter is devoted to the chronic ulcer. It is long and takes up a quarter of the entire volume. Opening with a short historical survey of the subject, the author discusses its etiology, frequency, symptomatology, duration, course, and termination; its pathology and treatment. With regard to its cause, he adopts the views of Rokitsky, Virchow, Pavy, Ebstein, and others, that blood stasis is the usual precursor and cause of the ulceration; but that the initial stasis comes about from many causes, which are fully enumerated. In this we are entirely in accord with him. The questions of sex, age, and frequency, are very fully discussed, and tables given. He does not agree with Dr. Brinton that the frequency of occurrence of gastric ulcer increases with advancing years. From thirty to sixty is the gastric ulcer period, and the greatest mortality is between forty and sixty. But the number of fatal cases, thirty-three, less two in whom the age is not stated, is too small to enable any positive conclusion to be drawn. We notice, after discussing the symptoms, a somewhat novel but useful clinical classification of gastric ulcer. We have an acute perforating form; an acute hæmorrhagic form; one in which dyspepsia is predominant; a mixed cardialgic and dyspeptic form; a chronic hæmorrhagic form; another in which vomiting is predominant; a rare form in which dyspnoea is present; a cachectic or carcinomata-like form; and the stenotic form. Some of these may perhaps seem rather fanciful, but others are certainly important clinical types well worth recognition. We cannot stop longer over this chapter; it is full of information throughout, and well worth attentive perusal. The fifth chapter is devoted to duodenal ulcers, which are correctly ascribed to causes similar to those which produce gastric ulcers; certain differences, however, are noted, one being that the time of life at which duodenal ulcers occur is rather different, a larger proportion occurring under twenty (and this exclusive of those cases caused by extensive burns), and also in the later decades of life. The frequency in the two sexes is also reversed; it is far more common in men than in women. We doubt whether the author is correct in another distinction that he draws, viz., that the stomach is exempt from the ulceration which follows burns. A much larger

number of cases are required before we are justified in formulating any such rule as that; and it so happens that we have ourselves seen an ulcer in the pyloric region of the stomach after burns in two cases.

We come next to the chapter devoted to new formations, which practically resolves itself into a treatise on cancer of the stomach. A veritable *pièce de résistance* this, comprising a third of the whole book. For instance, under the head of etiology, we find remarks on its frequency, geographical distribution; the influence of sex, age, habitat; influence of seasons; of station in life, occupation; injuries; hereditary and individual predisposition, depressing mental affections, and the cessation of the menses. Several tables are given upon some of these points, embracing a large number of cases, and the whole subject is very completely worked out; but we must refer our readers to the book itself, as our space is run out. We are glad to see that the frequent association of cancer with ulcer is strongly insisted upon, because we are convinced that a large number of cases of cancer have originated in chronic ulcers, and if we are to do anything towards diminishing the frequency of carcinoma of the stomach, it is necessary to be well aware of that fact. Then follows a chapter on hypertrophic stenosis of the pylorus, and the author has, wisely as we think, gone the best way to settle a controverted question by publishing careful reports of six such cases. Dr. Habershon has always insisted on the existence of such a condition, but many others have been inclined to doubt its existence apart from cancer. The last chapter is a short one on Dilatation of the Stomach, but one of the most valuable in the whole volume.

If, in conclusion, we may make any criticism on what appears to us to be a work full of information, and in all respects thoroughly good, it is this: that professing to be devoted to clinical hygienic and therapeutic considerations, so much of it is engrossed by pure pathology. It is not for us to say that this, the ground work of all the rest, is misplaced—we do not think it so. But when the author gives evidence of such abundant experience, he whets our appetite for a more exhaustive account of the functional diseases of the stomach, which the matter of his book tells us he could so well supply. What he says on these diseases is good, but we think he might have given us more of it, and this by a judicious impartiality between the various chapters, without adding much to the size of the volume.

JAMES F. GOODHART, M.D.

NEW INVENTIONS.

NITRITE OF AMYL.

The gradually accumulating evidence in favour of the usefulness of nitrite of amyl capsules in sea-sickness, is such that we are inclined to believe that, in this agent, a really valuable and largely effectual remedy has been found for that distressing and intractable malady. Messrs. Allen and Hanbury, Plough Court, Lombard Street, introduced some time since an elegant and safe method of using the nitrite of amyl for the purposes of inhalation, whether in sea-sickness, in angina pectoris, or in severe headache, in all of which cases this valuable inhalant is capable of rendering great services. Each capsule, consisting of a hermetically sealed film of glass, protected by a silk cover, contains only three drops,

and these being crushed on a handkerchief, give off a vapour which, thus being presented in a minimum dose, may be considered to be absolutely safe. It is very necessary to limit the amount of nitrite of amyl inhaled at a given moment, and, by this means, Messrs. Allen and Hanbury have provided a safe as well as an efficient and valuable remedy.

MISCELLANY.

REMEDY FOR COLOUR-BLINDNESS.—*La France Médicale* states that M. Delbœuf has found that if a person afflicted with Daltonism looks through a layer of fuchsine in solution his infirmity disappears. A practical application of this discovery has been made by M. Javal, by interposing between two glasses a thin layer of gelatin previously tinted with fuchsine. By regarding objects through such a medium, all the difficulties of colour-blindness are said to be corrected.

PRECEPTS FOR SEA-BATHING.—Dr. Conguet-Alberto gives hygienic rules for sea-bathing, the sum of which are compressed in the quaint precepts of Dutroieau, on the model of those of the Academy of Salerno, read thus:—

- “1. Avant le bain tu marcheras,
Pendant un bon petit moment.
2. Puis tu te déshabilleras,
Sans hâte, mais rapidement.
3. Dans l'eau tout de suite entreras,
Sans flâner au bord nullement.
4. Tout d'un coup tu t'y plongeras,
De la tête au pied carrément.
5. Dix minutes y resteras,
Toujours, toujours en mouvement.
6. Enfin, lorsque tu sortiras,
Tu te vêtiras chaudement.”

COLOURED LIGHT AND ANIMAL LIFE.—There has hitherto been little of importance to report in reference to the effect of coloured light on the development of animals. Some time ago M. Bréclard made some experiments with different parts of the spectrum on the eggs of the fly (*Musca carnaria*), and found that they hatched much more quickly under the violet and blue rays than under the green. The first extended and thorough investigation of the subject, however, seems to have been made by M. Yung at the Zoological Laboratory at Roscoff, in Brittany. He has been at work on the subject for three years, and the results have just been published in French journals. Three series of observations were made on the eggs of the frog (*Rana temporaria*), the trout (*Salmo trutta*), and the *Lymnea stagnalis*. Other conditions being identical, the eggs were subjected, in separate portions, to different coloured lights. One vase of each was kept in a dark cupboard. The conclusions, identical in each case, were as follows:—1. The different coloured rays of solar light act in decidedly varied ways on the development of the eggs. 2. The violet light hastens the hatching in a remarkable manner, and is very closely followed, in that respect, by the blue, then the yellow and the white. 3. The red and green rays appear injurious, in this sense, that, under their influence, complete development of the eggs was never obtained. 4. Darkness does not prevent the development, although it delays it considerably. 5. The various parts of the spectrum may be thus arranged, in their effect on development, in the following decreasing order,—violet, blue, yellow and white (the last two being almost identical), darkness, red and green. 6. The tadpoles of frogs, of the same size, and previously existing under precisely similar conditions, deprived of all nourishment, died much quicker of inanition in the violet and blue rays than the others, because they consumed more rapidly their accumulated alimentary stores. 7. The mortality appeared greater in the coloured lights than in white. On this last point, however, M. Yung does not feel sure, and will make further investigation before pronouncing a positive decision.

THE ENEMIES OF THE TELEGRAPH CABLE.—The *Electricity* publishes a few very interesting remarks on the causes to which most of the accidents which occur to the submarine telegraphic cables are due. It seems that the bottom of the sea is inhabited by insects that are unknown to those who navigate its surface; they are extremely rapacious, and destroy the india-rubber sheaths of the cables. The toredo or *limmaria terebrans* is gifted with an almost incredible amount of destructive power. But all the enemies of the cable are not microscopically small; on the contrary, it seems as if all the monsters of the deep were in league against the cables. The line from Cayenne to Para was interrupted because large fish had left the traces of their teeth on the isolating sheath. The saw-fish has tested the power of his terrible weapon on the cables in the Gulf of the Antilles. The sea-turtles have succeeded in breaking the wire which runs from Key West to Havana. The cable in the Persian Gulf was cut in two by a thoughtless whale, who probably was in such a hurry that it did not even notice the wire. This time the culprit was severely punished for its crime; it got entangled in the broken wire, could not free itself, and died a cruel death. But unhappily such summary proceedings of justice are the exception, and all the poisonous matter that has been mixed with the india-rubber does not always suffice to kill even the insects. Another source of danger to cables are natural phenomena. Thus once or twice the cables in the Mediterranean have been destroyed by lightning, and in other sub-marine regions the currents on the bottom of the sea have rubbed the cable till it broke against the rocks on which it lay. Another time it broke through its own weight, because it was suspended across a very large submarine valley. Volcanic eruptions and earthquakes have produced similar deplorable accidents. Some of these causes will of course never be removed, but there are several others which science may prevent by modifying the composition of the sheaths which protect the wires.

A LOBSTER'S BLOOD.—Dr. Léon Fredericq, of the University of Gand, in March last, read a preliminary notice before the Royal Academy of Belgium on the peculiarities of the blood of the common lobster. Long ago, Harless indicated the presence in the blood of the crustacea of copper, and it is well known that the nutritive fluid in this group, as well as that in the mollusca, changes its colour when exposed to the air. In the crab this change of colour is due to the rapid absorption of oxygen, on being mixed with which it assumes a fine blue colour, and if the oxygen be taken from it, it resumes its rosy yellow tint. Jolyet and Regnard arrived (1877) at the following remarkable conclusion—that in the crab's blood there were two colouring matters—the one blue, the other red; the first occurs in connection with albumen, which, when coagulated by alcohol, presents a very pure blue colour, while the red colouring matter remains in solution in the alcoholic filtrate. Dr. Fredericq arrives at just the same conclusions from his study of the blood of the lobster. The plasma of its blood presents in effect two colouring matters; the rose-coloured one is not coagulable by boiling nor in alcohol; it contains no metallic body; it does not change its colour either *in vacuo* or when exposed to oxygen. It has nothing to do with the change of the colour of the blood. It is not even constant in this fluid, as some lobsters were found to have only the second colouring matter present in their blood. This second colouring material (*hemocyanine*) is not soluble; both heat and alcohol coagulate it, forming blue clots. It is, therefore, an albumenoid, and it contains copper. When these clots are investigated with the microscope, it is evident that the points of departure for the formation of the blue material are the blood globules. The saline composition of the lobster's blood sensibly approaches that of the water in which it lives. The author suggests that in the invertebrates the two chief functions of the blood—respiration and the nutrition of the tissues—both belong to its plasma, the globules having quite a secondary importance; while, in the blood of the vertebrates, the respiratory function devolves on the globules, and the nutritive function on the plasma.

S. MAW, SON, & THOMPSON,

MANUFACTURERS OF

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 Abscess Lancets
 Amputation Instruments
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 Elastic Stockings
 Elastic Syringes
 Enema Apparatus
 Endoscopes
 Eye Instruments
 Fracture Apparatus
 Fracture Cradles
 Fracture Frames
 Gynæcological Instruments
 Hernia Instruments
 India-Rubber Goods :—
 Beds
 Cushions
 Ice-Bags
 Pillows
 Sheets
 Urinals
 Inhalers
 Lancets :—
 Bleeding
 Vaccine
 Lithotomy Instruments
 Lithotrity Instruments
 Minor Operation Instruments
 Microscopes
 Mouth Instruments
 Necrosis Instruments
 Nose Instruments
 Obstetric Instruments
 Ovariectomy Instruments
 Orthopædic Instruments
 Pessaries

Pin Legs
 Pneumatic Apparatus
 Pleximeters and Instruments
 for Diagnoses and General
 Research
 Pocket Dressing Instruments
 Post-Mortem Instruments
 Rectum Instruments
 Resection Instruments
 Sayre's Instruments, etc. :—
 Bandages
 Hip Splint
 Tripod
 Suspension Apparatus
 Woollen Shirts
 Skin Grafters
 Spirometers
 Speculums
 Tooth Forceps
 Tooth Instruments :—
 Excavating
 Extracting
 Scaling
 Stopping
 Trocars :—
 Abdominal
 Bladder
 Exploring
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RECENT REPORTS OF PROFESSORS **VIRCHOW, LIEBREICH, & OERTEL** ON **APOLLINARIS WATER.**

The following are Translations of Reports on Apollinaris Water which have been recently received:—

Translation of Report on Apollinaris Water by Dr. **VIRCHOW**.

The natural Apollinaris Water of the Apollinaris spring, near Neuenahr, is an alkaline gaseous water which may be used HABITUALLY as a TABLE WATER. Its PLEASANT TASTE and its RICHNESS in PURE CARBONIC ACID FAVOURABLY DISTINGUISH IT FROM THE OTHER SIMILAR MINERAL WATERS.

Professor Dr. **VIRCHOW**,

BERLIN, 24th December, 1878.

University of Berlin.

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DE ROUBAIX ON SUTURES AND NEW FORMS OF SUTURE INSTRUMENTS.

DR. DE ROUBAIX, Professor of Clinical Surgery and Anatomy at the Brussels University, describes in a pamphlet, *On Sutures Treated from a Technical Point of View*,* suture needles devised by him to

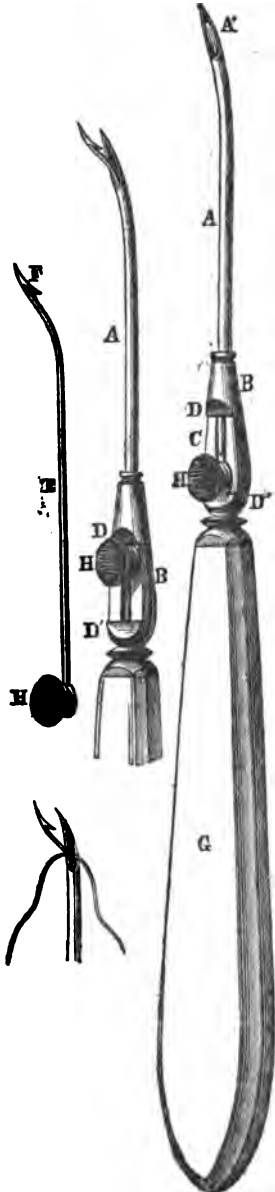


Fig. 1.

* *Des Sutures considérées au Point de Vue Technique; Présentation d'Instruments nouveaux.* Par le Dr. de Roubaix, Bruxelles. H. Manceaux, Rue des Trois-Têtes, 12. 1879.

overcome the difficulty met with in using those descriptions of the instruments which have been hitherto at the disposal of the surgeon. We will now allow Dr. de Roubaix to describe his instrument in his own words. It consists of (Fig. 1) a hollow steel needle A, to which is given the strength, the resistance, the length, and the direction necessary for the purpose it is intended to serve. The sharp end terminates in a chamfer cut obliquely on its interior space A'. The bottom of the section of the chamfer naturally forms a groove which is continued along the channel of the stem, and diminishes insensibly in depth up to the point. The point is cut to a triangular form so as to present a flat surface forward, and at the back two oblique squares, which allow the instrument to pierce and cut at the same time.

2. Of a shoulder B, three centimètres long, and varying in thickness from 4 to 8 millimètres, which serves to fix the needle solidly into the handle. The shape of the shoulder is that of a rounded cone; its base being towards the handle, and its thinner extremity in continuation with the needle. On the middle of the anterior face there is a break of 12 millimètres in extent, C, at the end of which is a smooth surface on which there is a groove running in a longitudinal direction to meet the channel of the needle. This smooth surface is bounded at both ends by a ridge forming a small inclined plane, DD'.

3. Of a steel spring stem, E, terminating at one end by a hook bent backwards in a retrograde manner F, and prolonged beyond the hook by a small blade shaped like a serpent's tongue, to which is given exactly the form necessary for filling up almost completely the channel near the point. It only permits of small channels to receive the thread during the passage through the tissues. The other end of the stem is soldered to the back of a flat button, H, by which it can be pushed forward or drawn backwards into the channel of the needle and into the groove of the shoulder. The button must be made to slip up and down, and this movement is checked by the two ridges, already mentioned.

4. Of an octagonal handle, G, of which the anterior and posterior faces are larger than the others.

In order to use the instrument, the handle must be taken in the same way as the shoemaker holds his awl, resting the thumb near the button on the shoulder. It is only in very delicate operations that the handle can be held in the same way as a cataract-needle. With one quick stroke the needle is pushed through the flesh, then with the thumb the button on the shoulder is slipped as far as the upper ridge. This movement causes the point of the spring stem, by virtue of its elasticity, to separate itself from the point of the needle, and allows the passage of a thread through the space that separates them. By afterwards drawing back the button as far as the lower ridge, the hook re-enters the terminal orifice of the stem, drawing the thread with it. This must not enter the channel (it might cut itself against the edges of the chamfer) it must be kept at the level of the opening. This done, the whole instrument is drawn out, the thread follows it, and the suture is completed.

Dr. de Roubaix next introduces us to an instrument for making vaginal sutures, which he thus describes. The instrument (Fig. 2) consists of a bent tubular needle, A, supported at right angles on the upper part of a metallic tube, B, which ends in the handle, C; a mandril runs through the whole length

of this tube. The working end of this mandril, manufactured by M. Clasen, surgical instrument maker at Brussels, is furnished with a screw having

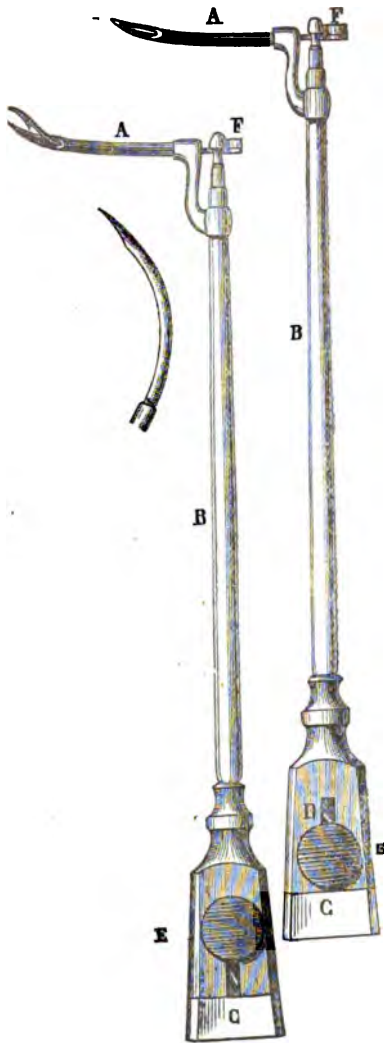


Fig. 2.

multiple thread, D. On this screw moves a nut governed by a bevelled button, E, forming a protuberance on the handle. On the upper end of the mandril there is an eccentric wheel, F; to this, the stylet-hook of Dr. Roubaix's ordinary needle is fixed by means of a tenon. By pressing the button the eccentric wheel is set to work, and causes the hook to move in or out in a similar manner to that described in Fig. 1. Dr. de Roubaix further tells us that with his instrument, constructed on his new system, he can manipulate in every direction in the interior of the vagina with almost the same ease as on the external parts of the body, without being hampered by the necessity of threading needles, breakage, using needle-holders, or passing the threads. The threads are passed at the first stroke—silver threads with the same ease as others, provided always of course that they are not very thick, not exceeding the size ordinarily

used for vaginal sutures, 1, No. 78, Stubbs's gauge, equal to $\frac{1}{34}$ of a millimetre (No. 33 of Clasen's gauge). But notwithstanding these improvements there was yet room for another, and this was to prevent the thread breaking during torsion. To remedy this, Dr. de Roubaix decided that it was necessary to have an instrument which seized the threads perpendicularly at the surface of the wound, and twisted them in this position by a number of gentle turns. The following is a description of the instrument devised by Dr. de Roubaix to fulfil these conditions.

The instrument (Fig. 3) consists of an ebony handle, A, in which is placed a horizontal cylinder or

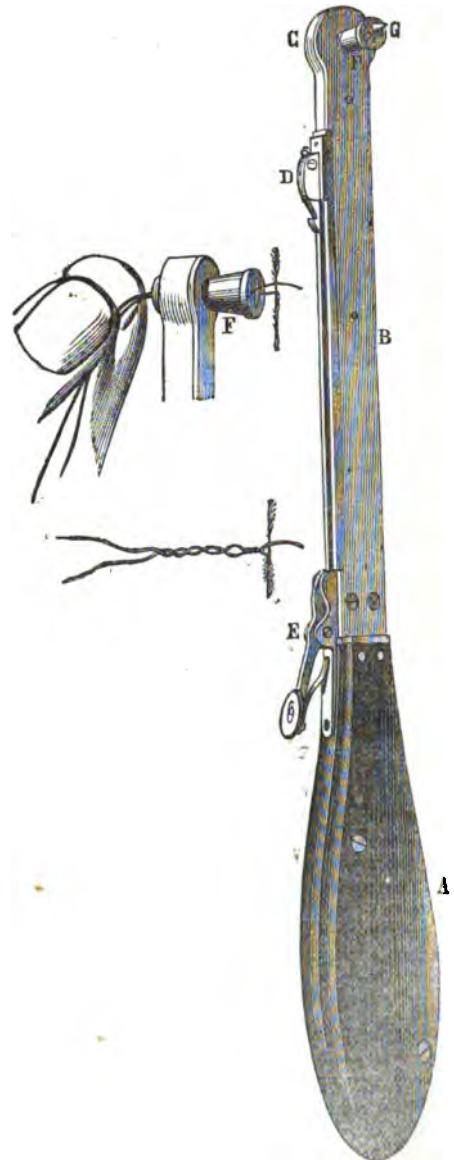


Fig. 3.

drum which moves freely on its axis, and containing a spring to which is fixed a piece of catgut. This piece of catgut passes up into a deep groove, which

is hollowed out in the body of the instrument, B, at the extremity of which, C, it winds itself round a pulley, which pulley, incorporated with a spindle, here traverses the thread twister. The piece of catgut after thus winding itself round, moves down a little to attach itself to a catch, D, which moves freely in the groove and can go down as far as a spring ratchet, E, which placed just at the handle, is joined to the body of the instrument. When the catch is fixed by the spring ratchet, the spring contained in the drum is stretched in consequence of the traction by the catgut exercised over it. The instrument is then ready for use.

The rounded shaft, F, which is a continuation of the terminal pulley, crosses transversely the end of the thread twister and extends beyond it, but on one side only, the length of a centimètre. It terminates in a slightly rounded end with a large slit. This slit leads into the hollow channel in the centre of the shaft, and runs across from one side to the other. A small valve, G, which rises and falls as required, divides this slit into two.

To use the instrument, the first thing to do is to fix on the catch, then pass the two ends of the silver thread into the two openings formed by the valve, the threads pass out at the other end of the shaft, and are seized by the left hand a little lower than shown in the annexed cut, whilst the right hand slips the shaft on to the threads until it has reached the surface of the wound. By this movement the adjustment which was formerly performed by the fulcrum is effected, and this instrument thus becomes superfluous.

The end of the shaft is then moved a little away from the wound, in order to make room for the portion which has to be twisted, and thus prevent breakage, which would certainly happen if the threads were forced to twist themselves round whilst in the flesh. The button of the ratchet is then pressed to loosen the spring. The catch immediately ascends to the point where it started, the pulley turns with the shaft; this carries with it the threads which are thus twisted. But as the threads over pass the opposite end of the shaft, they also, when they leave the valve, are drawn into the rotary movement, and the instrument would find itself thus imprisoned between two torsions, if, while it is drawn back the valve did not raise itself and change into one opening, the two it had formed, leaving a free passage for the twisted thread.

The incontestable advantages of this instrument would appear to give it the right to defy all criticism. Objections, however, are made to it; it is said to be too heavy, and the catgut is disapproved of on account of its hygrometric qualities; it can also be cut or damaged during the cleansing of the instrument. M. Clasen therefore endeavoured to remove these defects by adopting rather a different mechanism. The rotatory movement is communicated to the thread by the same mechanism as that of the preceding instrument, that is to say, by a shaft or hollow cylinder, of which the channel at its end is divided into two by a valve, C (Fig. 4). This cylinder is put into motion by two small toothed wheels enclosed in a small hexagonal box, B, situated at the extremity of the cylindrical tube, A, fenestrated throughout its whole extent. One of these wheels is vertical and incorporated with the shaft or cylinder, the other is horizontal and is bolted at right angles with the first; it is fastened to the upper part of a metal stem, which traverses the tube longitudinally surrounded by a spiral spring, and wormed in its central

part, on which moves a hollow screw. This stem supports a bevelled ring, D, which is provided with a

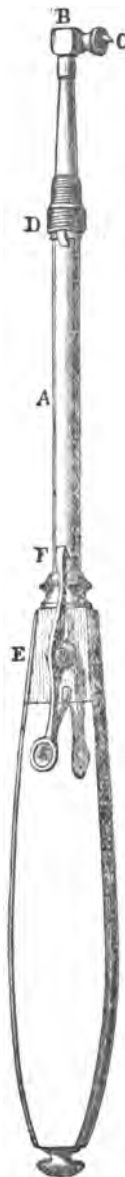


Fig. 4.

hook with sharp edges, which can ascend and descend in the opening of the tube, whilst the ring does the same thing round it.

A lever united to the collar of the handle, E, and also ending in a hook F, arranged so as to face the first, keeps the instrument in working order when the hook belonging to the ring is lowered. Pressure on the button at the end of the lever sets in action the elasticity of the spiral spring, which drives back the hollow screw the whole length of the stem, and makes it turn a certain number of times, communicating the same rotatory movement to the spindle and to the threads.

Dr. de Roubaix having also observed that the scissors hitherto used for the purpose of removing

the metallic threads when removal became necessary, frequently slightly injured the neighbouring parts, and induced some hæmorrhage, set to work to modify the usual form, and had an instrument constructed, of which the description is as follows.

The two branches of the instrument (Fig. 5) are united, A A, and furnished at the manual end with two rings, like ordinary scissors. The first of the two branches, made in one piece, ends in a long blunt hook, B, with which the side of the loop next to the operator is seized; the second branch works on a lever placed in C, and ending in a sharp blade, D,

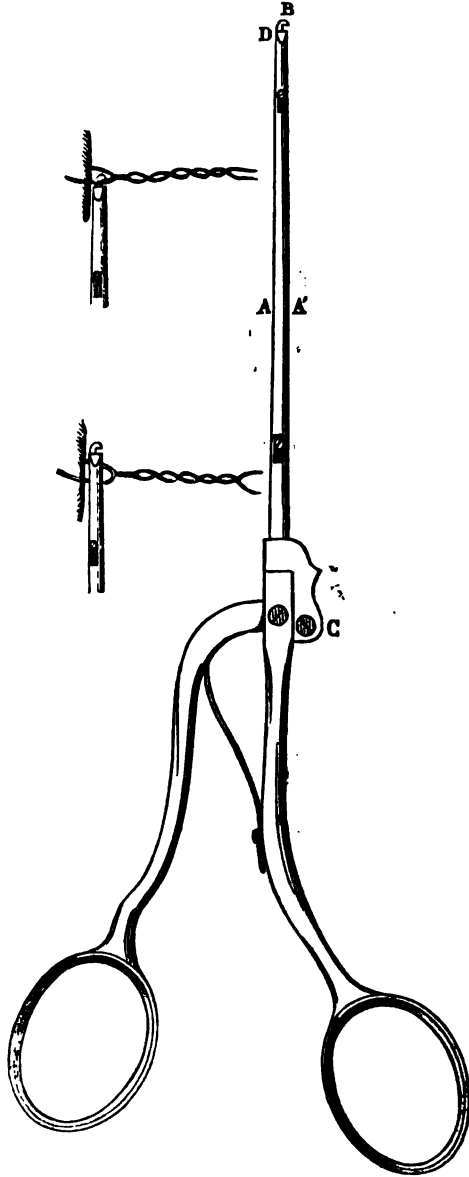


Fig. 5.

which slips over the former until it has overpassed the thread held by the hook, after having cut it in its passage. The bringing together of the two rings by the thumb and forefinger will suffice to make the division. After it has been performed, it

is advisable to apply the end of the instrument to the portion of the metallic loop which remains intact, as represented in one of the above figures, and to make it serve as a reflexion-point, whilst the twisted end of the thread is drawn out. The latter, in quitting the flesh, describes a semicircular movement which corresponds to the form of the loop, and all injurious lacerations are thereby avoided. The first model of this instrument was made by M. Delassize, who made the division from upwards downwards by means of the hook. The second model, of which we give the illustration, was made by M. Clasen, who divides the thread from downwards upwards by abolishing the cutting edge of the hook.

MALASSEZ ON INSTRUMENTS OF PRECISION FOR THE CLINICAL ESTIMATION OF HÆMOGLOBIN.*

IN an exhaustive paper, M. Malassez reviews the different methods that have been invented for the estimation of hæmoglobin, describes an ingenious and convenient little instrument that he has introduced himself, and details the uses to which it may be put.

Of chemical methods of estimation, there are three; namely, by ascertaining the quantity of iron or of oxygen, or of hematin, contained in the blood.

Estimation of Iron.—In 100 grammes of hæmoglobin crystallised and dried at 100 deg. (centigrade), there are, according to Hoppe-Seyler, 0.43 grammes of metallic iron; in a certain quantity of blood, the iron being therefore estimated, the hæmoglobin is easily calculated. The amount of blood required to make the analysis is considerable, and the method itself being long, it is altogether impracticable for clinical or constant use.

Estimation of Oxygen.—As is well known, hæmoglobin has the power of absorbing oxygen. According to M. Quinquaud, 1,000 grammes of human blood, containing 125 grammes of hæmoglobin, will absorb 260 cubic centimetres of oxygen. It has been found in pathological conditions, more particularly in croup, that hæmoglobin loses some of its power of absorbing oxygen. This method, therefore, based on the above calculations, cannot be trusted under all conditions.

Estimation of Hematin.—This method, discovered by M. Brozeit, consists in transforming the hæmoglobin of the blood into hæmatin; in extracting the hæmatin and weighing it in the balance, and in deducing the quantity of hæmoglobin from the hæmatin obtained. It is purely a method of the laboratory, and requires a considerable quantity of blood.

Colorimetric or Chromometric Methods.—These depend upon the fact that hæmoglobin is the colouring matter of the blood. The value of the tone of colour as regards its luminousness, and not the quality of the tone, is to be considered; as slight differences in tone are better observed in pale than in dark colours, the blood has to be dissolved in a solution, such as distilled water, that dissolves, but does not change the hæmoglobin. There are various methods; in one, the blood is diluted until it reaches the colour of a standard solution; in the other, the

* Sur les Diverses Méthodes de Dosage de l'Hémoglobine et sur un nouveau Colorimètre par L. Malassez. (Laboratoire d'Histologie du Collège de France. *Travaux de l'Année 1876.*)

blood is always diluted by the same amount of fluid, and the solution is compared to a varying colorimetric scale.

1. *The Method of Hoppe-Seyler*.—Two hæmatometers, consisting of two little glass vases with parallel sides, are placed side by side, distant about one centimetre from each other. In one is placed a titrated solution of hæmoglobin; in the other, 10 cubic centimetres of a 5 per cent. solution of defibrinated blood; a piece of white paper is placed behind the two hæmatometers, stood side by side, and their differences of tone observed. If the solution of blood is darker than the standard solution, distilled water is added, until they exactly correspond. The quantity of added water being known, it is easy then to estimate the quantity of hæmoglobin. This method, which is very exact, is little used, on account of the difficulty of preserving the solution of hæmoglobin. To remedy this, M. Rajewski replaced the solution of hæmoglobin by one of picrocarminate of ammonia, which keeps well in closed vessels, and which gives results almost as exact.

2. *Preyer's Method*.—This is by means of the spectroscope. Examined by the spectroscope a concentrated solution of blood or hæmoglobin gives only red rays; but if the solution be more diluted, at a given moment green rays appear; thus, by making use of a titrated solution of hæmoglobin, one can ascertain the richness of the solution in hæmoglobin by the appearance of the green line, the conditions being always exactly the same. To make an analysis, the titrated solution of hæmoglobin is replaced by a certain quantity of defibrinated blood. By a graduated pipette, distilled water is added, drop by drop, the whole being well shaken. The moment the green appears, the addition of water is stopped. The solution of blood then contains the known quantity of hæmoglobin. This method is, according to M. Rajewski, less exact than that of M. Hoppe-Seyler. M. Quincke made an useful modification in this method by making use of a prismatic vessel, attached to a graduated scale, in which a 10 per cent. solution of blood was introduced.

3. *J. Worm Müller's Method*.—Instead of decolorising a certain quantity of blood, a certain quantity of water (half litre) is coloured by adding gradually the blood to be examined. The typical colour is given by a solution of blood taken as unit.

4. *The Fluid Scale of Welcker*.—This method, published in 1854, consists first in making a certain fixed solution of the blood to be examined, and secondly in comparing the colour of this solution to a series of solutions previously prepared. These fixed solutions are made of blood of a certain known richness in corpuscles, and are graduated in such a manner that they correspond to a decreasing richness in corpuscles. Thus each solution corresponds to a blood containing a certain fixed number of corpuscles. The liability to change that the standard solutions of blood undergo, render this method of difficult and uncertain application. However, by using extraordinary precautions, Welcker himself made a number of most interesting and valuable observations by this method.

5. *Welcker's Scale of Blood Stains*.—Here, instead of comparing the colour of solutions of blood, the colour of stains left by these solutions is compared. To one cubic centimetre of blood, 8 to 20 cubic centimetres of distilled water are added; 10 cubic millimetres of this solution are taken and dropped on a circle drawn on well-strained paper; with a bent

needle the fluid is drawn exactly over the area of the circle, and is left to dry. A table shows to what number of corpuscles each tint of the scale corresponds. In both these processes, Welcker assumed that the corpuscular richness of the blood could be inferred from the amount of hæmoglobin, an assumption which recent investigations have not confirmed. No chemical analysis also was made of the blood (his own) which he took as the standard, and therefore his results, though comparable one with another, furnish us with no accurate data in comparing them with researches made by other methods.

6. *The Painted Scale of M. Hayem*.—M. Hayem's method (published in the *Acad. des Sciences*, 26 Avril 1875) consists of dropping into a cell, of a known size and depth, a fixed solution of blood, and in viewing the tint produced over white paper by direct, not transmitted, light. The tint is then compared to that of a series of circles painted with great care in water colours. M. Hayem takes as his maximum, blood containing 6,000,000 corpuscles, and represents the amount of hæmoglobin therein contained as 1, the decreasing scale to a blood containing but 3,000,000 corpuscles, being represented by decimal fractions. M. Malassez objects that in M. Hayem's ingenious method he has fallen into the same error as Welcker, and that he takes as his unit the colour of a blood of which neither the quantity of iron contained nor the respiratory capacity are ascertained, nothing, in fact, which can give an exact idea of its richness in hæmoglobin. The scale is altogether an arbitrary one.

7. *Globulimeter of Mantegazza*.—This process rests on the fact that, if the flame of a candle be seen in a dark room across a solution of blood, and if a number of pieces of blue glass be interposed between the eye of the observer and the solution, there is a moment when the flame is no longer visible. It is obvious that the more transparent the solution of blood, the greater the number of blue glasses that must be interposed; thus, the richness in hæmoglobin is estimated by the number of glasses necessary. A special instrument is constructed to facilitate the proceeding, and the mode of operation is very easy and quick.

8. *Hæmochromometer of Malassez*.—This apparatus consists of a screen pierced by two holes; behind one is placed the mixer (*mélangeur Potain*), which consists of a capillary tube leading to a circular receptacle with two flattened parallel sides; behind the other hole is placed the prismatic tube of colouring fluid. This tube contains a standard solution of picrocarminate of ammonia, to which has been added small quantities of carbolic acid, glycerine, and carmine. The coloured prism is moved up and down by a screw, the thinner and lighter, or thicker and darker portions, thus passing successively before the eye-hole. On one side of the prism is gummed a graduated scale, beside which is fixed a little needle, which indicates the figures. Behind the prism is a small plate of white ground glass, which is to diffuse the light and to make it whiter. The instrument is used thus: the finger of the person whose blood is to be examined is pricked with a needle or small lancet, and the blood drawn by aspiration up the capillary tube of the mixer to a point marked 1, then distilled water is drawn up to fill the reservoir to a point marked 101. The solution is shaken till it is perfectly homogeneous. The mixer is then fitted into the screen behind the vacant hole, and the screen is held up to the light, a white north light when possible; the prism by means of the screw is moved up and down

till the tint of the solution of blood and the standard solution in the prism exactly correspond. The needle indicates on the scale at which number this is, and on referring this number to the scale of figures written on one side of the screen, the amount of hæmoglobin per milligramme, and the respiratory capacity per cubic millimetre that the blood contains, will be learned.

M. Malassez, avoiding the errors of all previous workers in this field, has taken no arbitrary solution as a standard; but has, by careful experiment, exactly estimated the amount of hæmoglobin per milligramme, and the absorbing power of oxygen per cubic millimetre of the blood corresponding in colour to the graduations of his standard solution.

Researches regarding the richness of the blood in hæmoglobin were made by Welcker* in 1852, by Mantegazza† in 1865, and by John Duncan‡ of St. Petersburg in 1867; the researches of Hoppe-Seyler and Preyer made their influence felt later in the works of M. Subbotin,§ 1871, and M. Quincke,|| 1872. The former studying the variations produced by the influence of nutrition, age, etc.; Quincke occupying himself more with pathological conditions. M. Quinquaud in 1873 published his researches (*Acad. des Sc.*, 11 et 18 Aout 1873) on the variations of the richness of the blood in hæmoglobin in certain diseases, and in the zoological series; the quantity of hæmoglobin expressed in grammes is deduced from the maximum quantity of oxygen absorbed. M. Hayem published in 1876 (*Acad. des Sc.*, 10 July and 20 Nov. 1876) his studies on the alteration of the colour of the blood in anæmia, and under iron treatment.

To estimate exactly the variations in the respiratory power of the blood, it is not alone sufficient to ascertain its richness in hæmoglobin *en masse*. True, the richness in hæmoglobin represents the material richness of the blood, but if the same quantity of hæmoglobin be divided among a great number of corpuscles, the absorbing surface which it presents will be more extensive, and thus the gaseous changes of which it is capable will be more energetic. Hæmoglobin finely divided is more energetic than hæmoglobin less divided. Hence, the necessity of ascertaining at the same time the relation between the richness of the blood in hæmoglobin and its richness in corpuscles. It has been thought, and Welcker based his researches on this conclusion, that there was a constant relation between the two; but, though this may be the case physiologically it is not pathologically. In 1867, John Duncan observed, in studying chlorosis, that the number of the corpuscles might be equal to that of a person in health, but that the colouring power was less than half the normal; the same fact has since been observed by M. Hayem, who has found frequently in anæmia a want of agreement between the number of the corpuscles and the hæmoglobin; the latter being less than normal. He also frequently found that iron increased the colouring matter, the number of corpuscles remaining the same, or perhaps, even, diminishing.

In M. Malassez's researches on the same subject,

* Blutkörperchenzählung und farbefrühende Methode. (*Vierteiljahrsschrift f. die praktische Heilkunde*. Prague, 1854, vol. xlv, p. 11.)

† Del Globulimetro. Milano, 1865.

‡ Beiträge zur Pathologie und Therapie der Chlorose. (*Sitzungsberichte der Kais. Akad. der Wissenschaften, Wien, Mathem. Naturwiss. Classe*, 1867, ii Abw.)

§ Mittheilung über den Einfluss der Nahrung auf den Hämoglobingehalt des Blutes. (*Zeitschrift f. Biologie*, 1871, vol. vii.)

|| Über den Hämoglobingehalt des Blutes in Krankheiten. (*Arch. Virchow*, 1872, vol. liv.)

he disregards arbitrary values and tries to arrive at an exact estimate of the colouring matter and the respiratory capacity of each corpuscle. This is arrived at thus: The amount of hæmoglobin per cubic millimetre being ascertained, it is divided by the number of corpuscles contained in the same space, the result being the amount of hæmoglobin per corpuscle. For example, a man having 5,000,000 corpuscles per cubic millimetre, and 0.125 mil. gr. of hæmoglobin, the former divided by the latter will give 25 μ gr. (millionth of the millionth of a gramme) of hæmoglobin per corpuscle. The respiratory capacity of each corpuscle is estimated in the same way.

In estimating the amount of hæmoglobin contained in the corpuscular substance (*substance globulaire*), Welcker has found that there is an almost constant relation between the size of the corpuscle and its colouring power. Thus, for example, the corpuscle of the myoxus is half the size of the human corpuscle, 0.55, and its colouring power is equally almost half, 0.65. A frog's corpuscle is, on the other hand, eight or nine times larger than the human, and it is seven times more strongly coloured.

In making such calculations, M. Malassez recommends that the quantity of hæmoglobin per corpuscle may be ascertained by the calculation described above; it should then be divided by the mean size of the corpuscle, and thus the quantity of hæmoglobin per unit of volume of corpuscular substance be obtained; that is to say, the richness of that substance in hæmoglobin, or, again, that may be called the co-efficient of hæmoglobin. For example, a healthy man possessing 25 μ grm. (millionth of a millionth of a gramme) of hæmoglobin per corpuscle, his corpuscles being of a mean size of 72 μ cub. m.m. (thousandth of a cub. m.m.), the richness of his corpuscular substance in hæmoglobin would be 0.347 μ gramme in a thousandth of a cub. m.m. The same for his respiratory capacity, this being 52 μ cub. m.m. per corpuscle, it would, in the thousandth of a cub. m.m. of corpuscular substance, equal 0.722 μ cub. m.m.

In conclusion, M. Malassez indicates the lines of a future research on the relations between the amount of tissue in the body, and the demands made upon the body in health and disease, and the amount of hæmoglobin.

ALICE M. HART.

TERRILLON ON TRAUMATIC RUPTURES OF THE HEART.*

IN considering these injuries, M. Terrillon states that fractures of the ribs, driving inwards of the sternum, and the penetration of missiles, are the ordinary causes of traumatic cardiac ruptures; three sorts of lesions may be thus produced.

1. More or less extensive rupture of the cardiac walls, with death rapidly ensuing.
2. Contusions and ecchymoses of the heart's muscle; these, at certain parts of the organ, do not seem to exert any influence on its movements.
3. An internal rupture of a valve, of the cords, pillars, or even the septa, may take place. These lesions may for a certain time leave the functions of the heart intact.

The following cases are brought forward.

1. (Prescott Hewett) — The patient was twelve years of age, and died four hours after a fall. An examination showed an ecchymosis, and slight tear

* *Le Progrès Médical*, March 29th and April 5th.

of the cardiac wall, with a rupture of some of the columnæ carneæ in the left ventricle. II. (Todd)—A man, aged 44, was stabbed under the left nipple; a recovery took place, the patient not dying until three years afterwards. The anterior segment of the tricuspid valve was found to have been ruptured and hung loose in the ventricular cavity. The columnæ carneæ were atrophied. III. (Deizeimens)—Man, aged 21, kicked by a horse in the chest and knocked backwards. Was able to get up, put on his hat, and walk towards the stable, but fell dead as he was going. At the *post mortem* it was found the sternum had been fractured (although there was no trace of a blow) four and a half inches above the xiphoid cartilage, the lower fragment being depressed. The pericardium was filled with yellowish serum and coagulated blood. At the anterior part of the right auricle, there was a muscular rupture half an inch in extent; an incomplete tear also existed at the circumference of the auriculo-ventricular orifice, and there was a third fissure in the ventricular septum. IV. (Terrillon)—Man, aged 48, attempted suicide by firing a metal tube filled with iron ingots into his chest. When brought to the hospital, an hour and a half afterwards, the patient could hold himself erect, walk, and get into bed, in spite of difficulty of respiration. An external wound, large enough to admit the thumb's tip, existed at the anterior part of the seventh rib, on the left side of the chest. Death took place in twelve hours. It was found that a missile had traversed the left thoracic cavity obliquely, and lodged in the vertebral column. The heart was pushed to the right side under the sternum. The pericardium contained a little sanguineous serum. On the anterior surface of the left heart, near the apex, there was an extensive ecchymosis, without any solution of continuity, the bloody infiltration reaching the endocardium. At the apex of the interior of the ventricle an adherent clot, the size of a thumb, was found, the musculi papillares and chordæ tendinæ in the ventricle being ruptured and floating. This contusion is stated by M. Terrillon to have been caused by the ribs and costal cartilages at the moment they received the shock of the projectile. V. (Richet)—Man shot himself with a revolver. Death ensued in a few hours. The ball had pierced the pleura, and the pericardium over the apex of the heart had been injured. In the sac was found a teaspoonful of blood, and at the apex of the ventricle there existed traces of an extensive contusion.

M. Terrillon considers the mode in which these ruptures are brought about. If the injury is received during the systole of the heart, the state of contraction predisposes the rupture to take place at the point struck, probably the ventricular wall, but the shock, if of sufficient force, may also be communicated to the pillars and septa, and cause there, also, a solution of continuity. If the force be applied during the stage of diastole, the cavities of the organ are filled with blood and communicating, so that the excentric compression would produce a tear in the resisting valves or the septum; hence a rupture of these parts, with no, or at most very slight, traces of an ecchymosis of the cardiac walls.

T. F. CHAVASSE, M.D.

KLEBS ON THE CONTAGIUM OF SYPHILIS.*

THIS is an experimental study of the inoculation of syphilis upon some of the lower animals. Certain patients were subjected to removal of Hunterian chancres by antiseptic means, and parts of each chancre were preserved in hermetically sealed tubes, and from these the inoculations were made, either directly or after cultivation. Under certain conditions syphilitic indurations are not infective, or, more probably, they have ceased to be so at the time of inoculation; and, inasmuch as these show the same histological elements as those which do infect, it is concluded that the cells are not the carriers of the virus, these being present in both cases. Klebs believes that the various stages of development of a fungus correspond with the various grades of infectiveness, and this is corroborated by another observation of his, that the extirpated masses were more active when they had been preserved for some days in glass tubes prior to their insertion.

The parts removed were all examined, both in the first state and after the usual hardening processes and staining. By the latter, appearances were observed in the morbid material which were suggestive of the presence of micrococci, but they were to some extent equivocal. Not so with the fresh specimens, in which organisms were indubitably recognisable as active mobile grains and short rods.

The first experiment was on this wise. On April 15, 1875, a Hunterian chancre was removed antiseptically and transferred to a glass tube heated to a red heat and closed by cotton-wool. During three days its surface showed no trace of putrefaction. The tube was opened on April 18 under salicylic acid spray, and pieces of the mass transferred to two cultivators. Within two or three days changes were observed in them, and, at the end of twenty-two days, microscopical investigation showed micrococci and rods. From this material a small black rabbit was inoculated in the anterior chamber of each eye. The inoculation excited considerable inflammation of the eyes, and rapid wasting, and death took place in nineteen days. The inspection did not show very much, but the left side of the liver contained a small circumscribed yellowish-white deposit, with gristly thickening of the neighbouring serosa. The left cornea, also, showed morbid changes.

The second experiment was upon an ape. Three injections were made—one into the prepuce, another under the right nipple, the third under the left; all on July 8. Nothing was noticed, except that an abscess formed at the seat of one of the punctures, till seven weeks after inoculation. By that time the animal was very ill, and a granulation tumour had formed in the gum of the upper jaw. It died on August 31. The lung contained extensive tough yellow masses with cheesy centre, the peripheral parts of which were rich in spindle cell forms, and, therefore, unlike tubercle. Moreover, these changes were in direct communication with a caseous abscess under the left breast; one of the spots at which an injection had been made. Extensive changes were also found in the skull, in the shape of caseous deposits and bare bone. The deposits presented the same microscopical appearances as those in the lung; they were very vascular, and their softer parts contained rods in threads, in clusters, and groups which

* *Archiv für Experiment Pathologie u. Pharmacologie*, Band x.

corresponded with those found in the cultivation apparatus.

The next series was not carried out till May 1877. The material was afforded by a hard chancre removed by Professor Weiss half an hour previously. The surface of the ulcer showed a thick layer of micrococci, which exhibited lively movement in a mixture of glycerine water and common salt. Three rabbits and a dog were inoculated from the fresh chancre in the submucous tissue of the genitals. No noticeable changes resulted; neither induration nor ulceration. Two guinea pigs were inoculated by injection into the peritoneal cavity; and in these, as in former experiments, continuous wasting set in, and the animals died. No changes were found in the viscera, but actively moving bodies were found in the urine, pericardium, and bile of one animal.

Pieces of the same chancre were transferred to a cultivator, and, after twelve days, from the resulting growth of rods, grains, etc., a guinea pig was inoculated. On the following day, the part was somewhat swollen, and, within three days, the animal was dead. The organs were healthy, but in the blood were a few moving rods and micrococci.

Some of the material in another cultivator was left for a month, and, when examined, no longer contained rods, but only micrococci. With this, and with some material obtained by cultivation from the bile of the recently dead guinea pig, two parallel series of observations were made with guinea pigs, rabbits, dogs, and a goat. The inoculations were made on June 8th; on the 12th, the goat and one dog showed some swelling at the seat of puncture, and the dog some subsequent swelling of the inguinal glands, the inoculation being made on the penis. But these early changes disappeared, and the experiments appeared to have failed. On July 5th, however, one of the rabbits died unexpectedly, and a quantity of fluid was found in the peritoneum containing micrococci; there being no trace of peritoneal inflammation. No other disease was found. On October 1st, a guinea pig died, and it also had ascites; the peritoneum being free from inflammation. This case is thought by Klebs to be similar possibly to a case recorded by Dr. E. Schütz (*Prag. Med. Woch.*, 1878) of a new-born syphilitic infant with ascites, the condition being associated with an extensive narrowing of the small arteries, but the arteries were not examined in these animals.

Of the two dogs, one died on August 22nd; it had lost weight continuously. Some rather equivocal appearances in the cranial bones were found. The other being quite well some months after, it was devoted to other purposes. When it was examined, the spongy substance of the long bones in the whole extent of the epiphysis and part of the diaphysis was converted into compact tissue, and no trace of the epiphysal line remained. In the cranial bones eroded and carious patches were found.

A fourth series was conducted upon a pair of monkeys. The male was inoculated immediately from an extirpated chancre. The latter being removed, a small piece was deposited under the skin of the scrotum. The small wound healed at once, and no ill results followed. From the same chancre two pieces were taken and cultivated. The material became yellowish-grey and black, very offensive, and, on the sixth day, it contained a sporulating bacillus with active movements. The female was inoculated by subcutaneous injection. Suppuration occurred, and the part healed without any further ill result. The male was again inoculated from a fresh chancre,

but only with a like result. The female was subsequently inoculated from another extirpated chancre. For six weeks it appeared quite well; then it began to shiver. The temperature rose to 104°, and an eruption appeared on its face. It died on May 17th, having been inoculated on December 29th. Characteristic changes were found in various parts, particularly in the lung, cranial bones, and kidney. In the lung there appears to have been a very characteristic gumma. The changes were distinguished from tubercle by being entirely interstitial, and by being composed of spindle-cells and other elements in a glassy-looking protoplasm. Similar appearances are found in the indurations of a fresh chancre.

By cultivation of the blood of this animal, masses of fungus were procured, consisting of spirally twisted masses of elongated rods, arranged in colonies and chains, to which the name *Helicomonads* is applied. The results of his observations Klebs sums up in the following three conclusions.

1. Syphilis in man can be communicated to animals by inoculating them with portions of the syphilitic new formations. But the course of the disease is not the same for each genus. With apes, the disease is quite the same as in man; rabbits have given others results which, if not so striking, nevertheless will not allow any mistake as to their similarity with the disease in man.

2. In syphilitic new formations in man, certain low fungoid organisms are found, which develop into peculiar forms—*Helicomonads*.

3. By the transference of these to selected animals changes are set going which correspond not only with those of genuine syphilis in man, but also with those of the inoculated syphilis of animals.

JAMES F. GOODHART, M.D.

RENZI ON CATAPHASIA.

DR. RENZI, of Genoa, publishes in the *Giornale Internazionale delle Scienze mediche*, Fasc. 5, 1879, a very interesting paper on a peculiar affection of the speech to which he has given the name of cataphasia. The characteristic symptom of this disease consists in the patient being obliged to repeat over and over again the same words; he having either pronounced these words spontaneously or in answer to a question. Thus, a patient being asked how long he has been ill, repeats fourteen years—fourteen years—fourteen years, and so on, five or six, or even more, times. Another patient will give a clear and correct answer to any question addressed to him, and then go on repeating the same answer till another question is asked.

None of the authors who have written on the troubles of speech seem to have been acquainted with this peculiar affection. In his book, entitled *Symptomatalogie ou Traité des éléments morbides*, Spring describes an affection to which he has given the name of logomania, and which at first sight seems to be a disease very similar to cataphasia; however, on closer investigation we find that they differ in one essential point, viz., the word or phrase which is being repeated. Thus in logomania the patient repeats involuntarily some insignificant word, or some uncouth expression, which is always the same. In fact this phenomenon bears a strong resemblance to a certain individual peculiarity, which consists in repeating frequently the same expression or exclamation in the course of a conversation. In cataphasia, however, the individual utters a per-

fectly coherent sentence, which corresponds to the question addressed to him, but he then goes on repeating it for an indefinite number of times. This affection is also different from the one known under the name of "echo". A patient affected with echo repeats automatically the words of others: thus, on being asked "How old are you?" he repeats—How old are you? He utters the words and phrases he hears in a monotonous manner, without paying any attention to what he says, and frequently without understanding their meaning. Remarkable instances of echo, or parrot talk, have been reported by Romberg and other observers. Tapret considers this phenomenon as a sort of verbal amnesia. Kussmaul thinks it is produced by an acoustic reflex action, and traces it back to a cortical lesion which is similar to the lesion met with in aphasia. The two following cases will serve to illustrate this peculiar affection. A man, aged 60, was received in the hospital on the 15th of June 1876. The only remarkable points in his history were that his father was addicted to drink, and that he himself took a glass of brandy occasionally. Two years before entering the hospital he had in a brawl been repeatedly struck with fists on the face and skull, and ever since he had suffered from headache, and experienced a certain difficulty in his utterance. On the day previous to his admission to the hospital, when walking in the street, he suddenly felt giddy and fell down, but did not lose consciousness. In falling he struck heavily against the pavement with the left side of his face and thorax. On rising, he noticed that he had been wounded on the left side of his face, he also felt a very violent pain in his left side. He was taken to a hospital where the wound in the face was dressed, and the patient dismissed. But the next day, as the pain in his side increased, and he felt very ill, he presented himself at the University Hospital, and was received.

Examination revealed a fracture of the left third rib, and all the symptoms of pneumothorax on the left side. There were no sensory disturbances, the patient could smell, hear, taste, and feel equally well, the only abnormality was a certain degree of hemeralopia. The motor functions had also remained normal, as well as the reflex movements and electric contractility.

The patient's intelligence was rather obtuse, but his memory seemed good. He was not delirious, but rather apathetic, and complained of continuous headache. He would give a perfectly clear and correct answer to any question addressed to him, although there was a slight hesitation in his speech, and then go on repeating his answer till another question had been asked. It was as if the patient echoed his own words. The answers were very short, and consisted mostly of one or two words. Occasionally the repetition of the words could be observed when the patient spoke spontaneously. The pneumothorax was treated successfully in the usual way, but no amelioration could be obtained in the phenomenon of speech. Owing to the closing of the clinic for the vacation, the patient had to be dismissed, and was lost sight of.

CASE II.—The diagnosis in this case had been; disseminate sclerosis of the cerebro-spinal cord: chronic saturnine poisoning; rachitis; prurigo. The patient was 38 years old. His father had been addicted to intemperance, and had died at the age of 42, of an illness which lasted for three weeks, and was accompanied by intense headaches. Fourteen years before entering the hospital, the patient, while

working on board a ship, fell into the sea, and, being unable to swim, was naturally much frightened. He was, however, rescued by some friends. Ten months after this accident, he began to feel very weak; at the same time, the least moral emotion, such as a question addressed to him, or the aspect of a stranger, or even a slight movement, called forth a violent trembling of the whole body. Simultaneously he began to notice that he repeated every word he said. He was, however, still able to go on working for about a year. Three months before entering the hospital, he one day stumbled over a chair, and in falling struck the right iliac bone against the floor. From this day he was unable to walk, but almost always remained in a sitting posture; in standing up, he could not set his right foot to the ground.

The clinical examination revealed a slight decrease of the intellectual powers; he had, however, a tolerably clear idea of his own condition. He was very impressionable, and easily startled, but gave sufficiently clear answers to the questions put to him. His memory was good. He did not complain of headache, neither was he delirious. His senses were normal. When told to look upwards, the patient's head would wag backwards and forwards. The movements of the tongue were normal; a decrease in the muscular strength of the upper members could be discovered by the dynamometer. In speaking, and specially in answering a question, the patient repeated the same words four, five, or six times or more, with such volubility that it was very difficult to catch their meaning. Some words were only partly pronounced. Thus, on asking the patient how he felt, he would answer "debole" (weak), and then go on repeating the word from six to ten times in the following way. At first the word could be distinctly heard, being pronounced without any abbreviations, after which it was repeated with increasing rapidity, till at last it dwindled down to the sound "dell". Or, if he wished to say that the medicine which he was taking hurt his mouth, he would repeat several times the word "male", thus: male, male, mal, ma, ma, ma, etc. His tactile perceptions were examined by means of the æsthesiometer, and, on being asked if he felt one or two points, he would reply as if urged by an irresistible impulse, one, two, three, four, etc., sometimes going on to ten. The expression of his face was always apathetic and even stupid. Whenever a question was put to him he would smile. He remained in the hospital for a month. The treatment consisted in the administration of nitrate of silver, infusion of coca leaves and sulphurous baths. On leaving, the trembling had almost entirely ceased, but he still remained very weak, and the affection of the speech persisted.

Reflections.—Both cases are much alike in many points. There was evidently a hereditary nervous diathesis, as both patients are the sons of habitual drunkards. In Case II, the father seems to have died of some cerebral affection, probably a meningitis. One of the patients was also addicted to drink. Patient No. I received on his head some severe blows, which evidently played the same rôle in the history of the disease, as the mental shock recorded in Case II. Then, in both cases, a heavy fall seems to have determined the final outbreak of the disease. Concerning the seat of the affection, it is evident that it must be localised in the centre of speech (Dr. Renzi is strongly in favour of the theory that both hemispheres take an active part in

the formation of speech), and consequently on the borders of the island of Reil. In order to determine more precisely the exact spot of the lesion, the author makes use of the diagram given by Kussmaul in his classical work on *The Disturbances of Speech*, page 182. In this diagram, the perceptive or ideal centre is represented under the form of a large circle which stands for the entire field of the cortical cells, where the different sensory impressions are perceived (images of objects and words). Close to this large centre, and communicating with it, are two other smaller ones, which are the sensory centres for the images of words; one for the sonorous or acoustic images, and the other for the optic or written images. When an individual repeats, automatically, the words of another, phenomenon of the echo or the parrot-talk, the perceptive centre does not take any part in the action; but the sonorous images excite the sensory acoustic centre, which, by a reflex action, causes the repetition of the words which are heard by him who represents the phenomenon of echo. In cataphasia the perceptive centre is active, because the patient understands the questions put to him, and answers accordingly. But, at the same time, he repeats several times the same word or sentence, because the sensory acoustic centre for the verbal images preponderates. The perceptive centre is probably overstimulated in cataphasia, and an abnormally strong nervous current proceeds from it to the centre of the verbal images, which, being also in a state of morbid excitement, the images remain longer than usual, and the word is repeated several times against the patient's will, while the perceptive centre which sent off the first stimulus remains passive. The phenomenon of repetition is thus kept up principally by the exaggerated irritability of the acoustic centre of the sonorous images. If the conclusions at which Ferrier, Luciani, and Tamburini, have arrived concerning the cortical psychomotor centres are at all correct, the centre for all the acoustic perceptions ought to correspond to the superior and middle temporo-sphenoidal convolutions. Thus, in admitting in cataphasia a lesion of the perceptive centre, and the acoustic centre for words, we must localise it in the posterior portion of the third frontal convolution (perceptive centre) and the superior and middle temporo-spheroidal convolutions (acoustic centre). Cataphasia seems to be induced by a condition of exaggerated irritability which causes the image that has been evoked by a word or object to remain alive in the mind of the patient, and the corresponding word is repeated several times. There seems to exist a certain degree of analogy between this process of cataphasia and the muscular movements which we observe in an individual affected with catalepsy. For this reason, Dr. Renzi has given the name of cataphasia to the phenomenon we have just described.

In both patients there evidently existed a process of over-irritation, as the diagnosis in the first case had been chronic meningo-encephalitis; and, in the second, disseminated sclerosis of the cerebro-spinal axis. This process of irritation which, judging from the decrease in the intellectual powers, must have taken place in the cerebral cortex, sufficiently well explains the excitement of the perceptive and psychosensory centres of speech, and the cataphasia.

MEDICINE.

RECENT PAPERS.

1. ARNOLD.—Spasmodic Spinal Paralysis. (*South Clinic, Richmond*, 1878-9, i, 259.)
2. AMBURGER.—Infections theorie und Lungenschwindsucht. (*St. Petersb. Med. Woch.*, 1879, iv, 95-97.)
3. Abdominal Tumour, involving the Mesenteric Glands, the Retroperitoneal Glands, and the Walls of the Colon: rare form of Disease. (*Med. Rec., N. Y.*, 1879, xv, 348.)
4. BERTHENSON.—Ein Fall von Pseudoleukaemie, welcher für Typhus mit intensiver Lymphadenitis ausgegeben wurde. (*St. Petersb. Med. Woch.*, 1879, iv, 101-104.)
5. BERGER.—Ueber eine eigenthümliche Form von Paraesthesia. (*Breslau Aerztl. Zeitschr.*, 1879, i, 60.)
6. BROWN.—On Gas in the Peritoneal Cavity. (*Lancet*, June 1879, p. 812.)
7. BULTEAU.—On the Diagnosis and Treatment of Intestinal Occlusion. (*Thèse de Paris*, 1878.)
8. BASTINGS.—Guérison d'un Cas grave de Phthisie dans une Jeune Fille de Huit ans et Demi, par Electrification Méthodique des Muscles de la Respiration. (*Four. de Méd. Chir. et Pharmacol. Brux.*, 1879, 68, 117-128.)
9. CUTLER.—Mucous Polypus of the Colon; Diverticulum of the Ileum. (*Boston Med. and S. T.*, 1879, c, 513.)
10. DUJARDIN-BEAUMETZ.—Meningite Tuberculeuse, arrêt dans la Marche de la Maladie, Guérison des symptômes. (*Union Méd., Par.*, 1879, 3 S., xxvii, 469-474.)
11. DOUTREBENTE.—Note sur la Marche de la Paralysie Générale chez les Héritaires. (*Ann. Méd. Psych., Par.*, 1879, 6 S., i, 225-228.)
12. DUMM.—A Case of Paralysis, with some unusual Symptoms. (*Ohio Med. Rec.*, Columbus, 1879, iii, 493-495.)
13. ERB.—On a Case of Spinal Myelitis, complicated with Descending Optic Neuritis. (*Memor.* 5, 1879.)
14. EGAN.—Case of Acute Yellow Atrophy of the Liver. (*Med. Times and Gaz.*, Lond., 1879, i, 396.)
15. FÉREOL.—On a Case of Generalized Scleroderma, with Bronzing of the Skin and Punctate Vitiligo.
16. FOX.—A Case of Ruptured Aortic Segment. (*Lancet*, London, 1879, i, 511.)
17. FREUDENBERGER.—Grosse Lebercyste, wahrscheinlich Echinococcus Heilung durch Aspiration. (*Aerztl. Intell.-Bl. München*, 1879, xxvi, 135-138.)
18. GUBLER.—On Transfusion in Acute Leukaemia.
19. GOEDE.—Trois Observations de Tétanos Traumatique. (*Abeille Méd., Par.*, 1879, xxxvi, 89, 91.)
20. LÜTKEMÜLLER.—On a Case of Hemorrhachis. (*Wien. Med. Blätter*, 1878, No. 40; and 1879, No. 1.)
21. LOGIE.—On Position in Treatment of Intestinal Obstruction. (*Brit. Med. Jour.*, June 1879, p. 881.)
22. MADER.—Report of the Imperial Hospital Rudolfstiftung for the year 1877. (*Centralbl. für die Med. Wiss.*)
23. MOELLMANN.—Zur Ätiologie der Croupösen Pneumonie. (*Berl. Klin. Woch.*, 1879, xvi, 155, 170.)
24. OLLIER.—Tuberculeuse Pulmonaire Diabète Sucré, Péricardite Caséux. (*Progrès Méd.*, Paris, 1879, 267.)
25. RALPH.—Soft Cancer of the Liver co-existent with a Hydatid Cyst.
26. RIESS.—On Heart and Stomach Sounds. (*Berl. Klin. Woch.*, No. 51, 1878.)
27. SPIRE.—On Symptomatic Spasm of the Urethra. (*Thèse de Paris*, 1879.)

6. Gas in the Peritoneal Cavity.—Mr. G. Brown reports an interesting case of this somewhat rare condition, occurring in the third week of typhoid fever. The distension of the abdominal walls became extreme, so that relief was urgently demanded. A small aspirator trocar was passed through the abdominal wall; and, on withdrawal, a rush of

odourless gas took place through the cannula with vast and immediate relief. That the accumulation of gas in the peritoneal cavity was not due to perforation was evident, because it was gradually developed; there were no symptoms of perforation; the tympanitic condition of the colon and small intestines, which co-existed, were not relieved by the puncture; and the gas was odourless. Mr. Brown suggests that the gas accumulated in the peritoneal cavity through exosmosis direct from the blood, surcharged as it was with carbonic-acid gas, owing to the diseased condition of the lungs which carried off the patient thirty-six hours after the puncture. [In the *Lancet*, March 1877, p. 391, Mr. Rickman Godlee read before the Medical Society the history of three cases in which the peritoneal cavity was distended by gas, and where no perforation could be detected. In the subsequent discussion, Osmoor's seems to have been the theory that best explained the condition.—*Rep.*] RICHARD NEALE, M.D.

7. *The Diagnosis and Treatment of Intestinal Occlusion.*—M. Bulteau's work is divided into two parts. In the first, the author carefully studies, one by one, 1st, the different symptoms which constitute the difference between an acute or chronic intestinal occlusion and other affections which are apt to simulate it; 2nd, the pathological symptoms which may lead to diagnose the nature and seat of the occlusion. Among these symptoms are the conformation of the abdomen, the presence or absence of an abdominal tumour, the nature of the vomited matter, and the time when the vomiting sets in, the urinary secretion, etc. The second part contains a review of the different modes of treatment which have been used in this affection, such as purgatives, injections, abdominal massage, galvanisation of the intestine, etc., and the author arrives at the following conclusions: 1st. In acute intestinal occlusion, if all other means have failed, gastrotomy must be performed; 2nd. In chronic intestinal occlusion either gastrotomy, or enterotomy, or lumbar colotomy must be performed. If the seat of the occlusion should be in the large intestine, without the precise spot being known, it will be found necessary to practise cœcal enterotomy. If, on the contrary, it should be in the sigmoid flexure or the rectum, either Littré's operation for enterotomy, or else Amussat's operation for colotomy, will be found to answer the purpose. In all other cases of chronic intestinal occlusion, according to Nélaton, enterotomy must be performed in the right iliac fossa.

13. *Spinal Myelitis complicated with Descending Optic Neuritis.*—At the meeting of the German Psychologists in Heidelberg, Prof. Erb related a case of transverse spinal myelitis, with descending optic neuritis. The patient, a man aged 52, had become blind after a short stage of embyopia. On examination, a descending neuritis was found, with incipient atrophy. A few weeks later, he began to complain of irradiating pains in his back, and soon after paraplegia set in, together with sensory troubles, paralysis of the bladder, and fever. The patient presented all the symptoms of Brown-Séquard's paralysis. The affection culminated with cystitis and bed-sores, after which the patient gradually began to recover. Six months later, he was able to walk long distances. He was subsequently put under electric treatment, which had a most beneficial effect on his eyesight, so that a few months later he could be considered almost entirely cured. This case is very remarkable because of the complication of the

affection of the optic nerve with myelitis, which, although a very common occurrence in tabes dorsalis, is exceedingly rare in other affections of the spine.

15. *Generalised Scleroderma, with Bronzing of the Skin and Punctate Vitiligo (Leucoderma).*—The patient, a man, aged 43, had always had a brown skin, but twenty months before he came under notice, he somewhat suddenly became as brown as a mulatto. At the same time he was seized with violent itching all over the body, and scratched and rubbed himself till the blood flowed. Not only the exposed parts became tinted, but also the skin of the back and abdomen. M. Féréol describes the colour as one of yellow-brown, or sepia, very like, at first sight, the coloration of Addison's disease. The abdomen was most affected; the genitals and extremities less so. A stroke with the finger nail upon the skin produced a persistent white streak, due to the elevation of the epidermis, mapping out a dull white upon the deep black of the pigmented derma. The mucous surfaces of the mouth, etc., presented no pigmentation, except a very pale tattoo upon the lower lip, opposite some carious teeth. The bronzing was in some parts uniform; in others granite-like from two tints. Besides this feature, there were a number of white patches distributed symmetrically, and occupying all those parts where the bones made prominences. Almost at the same time that the change of colour commenced, the patient perceived that his skin became hard and inextensible, seeming to fit tightly to the deeper parts. This was particularly so with the hands, the trunk, and the face, so as to hinder his work and even impede mastication. The description of the case by M. Féréol is one of typical scleroderma, affecting the hands, as well as other parts, producing contraction of the palmar fascia, and showing also superficial scars of a former necrotic process, such as is known to occur in some cases of scleroderma. He experienced considerable impediment in his movement; he could not dress himself, and walking fatigued him. He breathed well, notwithstanding the thoracic sclerosis. There was grating in some of his joints. His antecedents are also important. His mother, though still living, is very nervous. In his youth he was strumous, suffered thrice from pneumonia, and after that, being a looking-glass maker, he suffered from mercurial poisoning. He subsequently suffered from a long attack of rheumatism, which attacked all his joints, and crippled him considerably for a long period. M. Féréol insists much on this rheumatic attack as determining the development of the scleroderma, but it is also worthy of discussion whether Addison's disease is not co-existent with scleroderma, or whether the coloration is anything more than an excessive development of the pigment, which is usually present in excess in leucoderma, in parts which are not leucodermic. All things considered, M. Féréol inclines to the opinion that the case is not one of Addison's disease with scleroderma, but that the coloration and scleroderma are both determined by some common cause.

18. *Transfusion in Acute Leukæmia.*—This case occurred in the wards of M. Gubler at the Hospital Beaujon. The patient was a baker's boy, aged 24. He had been ill two months with general malaise and extreme weakness. He was very pale. The spleen and liver were much hypertrophied, and the lymphatic glands in several parts were also large. The blood contained one white globule to five or six

red. He was treated with ferruginous tonics, arsenic, and hydrotherapy, but the disease made rapid progress, the spleen augmenting in size with surprising rapidity. Hæmorrhages from the nose now commenced, and his eyesight became impaired, and a second examination of the blood showed that there were as many white as red globules. In the presence of this galloping leukæmia, transfusion was resorted to. The brother supplied 100 grammes of blood, and sixty were injected. During the transfusion the patient experienced a feeling of warmth in the arm, then in the shoulder, and some seconds afterwards he was seized with a dry cough. Five minutes after the operation the pulse was 104°, the same rate as before it, but the sphygmographic tracing showed that the up stroke now approached the vertical. There was an immediate rise of temperature in the axilla from 38° to 38.4° C. He was much improved for three days, when fresh epistaxis occurred, and, desirous of returning home, he left the hospital.

JAMES F. GOODHART, M.D.

20. *Hæmatorhachis*.—The following case is reported by Dr. Lütkenmüller. A coachman, who was addicted to drinking, suddenly felt a violent pain in his body, lost consciousness, and fell down. On recovering consciousness, he complained of a sharp pain in his back, which was increased by pressing on the seventh cervical and the first spinal vertebrae. He was unable to move either his arms or his legs. There was cutaneous hyperæsthesia on the chest and shoulders, violent pains in the arms and neck, but no anæsthesia. The urinary secretion was normal. The pains disappeared in a few days, and the patient gradually recovered the use of his limbs. He left the hospital four weeks after the accident, feeling quite well again. The author explains this curious case by assuming that a hæmorrhage from the meninges probably took place in the spot where the cervical marrow joins the spinal cord. The patient being a drunkard, it was more than probable that the meninges and the smaller bloodvessels were diseased, and had undergone some degenerative process. The patient had been drinking hard shortly before his accident, and remained for a long while exposed to the sun on a very hot day. These two circumstances had doubtless contributed to stimulate the action of the heart.

21. *Position in Treatment of Intestinal Obstruction.*

—Dr. Cosmo Logie gives the notes of two cases where, by inversion of the body, serious symptoms of intestinal obstruction were overcome. One case, a young officer, apparently dying, on the tenth day of complete obstruction, was placed with his buttocks on a pile of cushions, his head and shoulders being dependent. In this position a copious oil and water enema was administered, and the whole abdomen manipulated. In a few minutes the patient was relieved and out of danger. The second case was that of a grey-headed black, who was, at the time of the Indian mutiny, strung up by the heels, and jolted up and down by his native doctor with such good effect, that, although the case had been pronounced hopeless by the army doctors, yet the patient followed on the march next day. [In *The Lancet*, October 1860, p. 384, Mr. Jessop reported a case of strangulated inguinal hernia, in which all ordinary means of reducing it had been exhausted. Mr. Jessop hung the patient over the shoulders of an assistant, like a butcher carries a recently slaughtered sheep, and then, by manipulation, quickly reduced the tumour. Numerous letters upon

this method may be found by referring to the index of *The Lancet* and other medical periodicals for 1860.—*Rep.*]

RICHARD NEALE, M.D.

22. *Report of the Imperial Hospital Rudolfstiftung, in Vienna, for the year 1877*.—This report contains several instructive contributions by Mader and others on nervous affections. Neuralgic affections of different nervous regions were repeatedly and successfully treated with warm baths containing a concentrated extract of pine needles. In many cases where the constant current and the usual nervous therapeutics had not afforded any relief, the use of a weak faradic current was attended by unexpected success. A case of neuralgia of the third branch of the trifacial nerve could only be cured by intrabuccal resection of the inframaxillary buccinator and lingual nerves. The loss of sensibility in the right half of the tongue was, in this case, followed by the loss of taste in the corresponding portion of the organ. In another case of infraorbital neuralgia the resection of the nerve was followed by an interval of four months, during which the patient was free from pain. A relapse then occurred, which could only be definitely cured by ligaturing the carotis communis. In another case of neuralgia of the inframaxillary nerve, where the same method had been pursued, no cure was effected. It is noteworthy that in neither of these cases was the operation followed by cerebral symptoms. Two cases of tetanus were treated by inhalations of nitrate of amyl, with partial success. One of the patients recovered, but the other only grew better after warm baths had been repeatedly administered. In one case external pressure of the arteries and nerves of the affected limbs was attended by good results. One case of traumatic tetanus ended fatally; two more cases were cured through chloral. In one case of epilepsy large doses of bromate of potash (14 grammes per die) afforded at least a temporary relief. In one case of amnesic and atactic aphasia (agraphy), which was probably due to an embolus and complicated by right hemiplegia, the patient was unable to draw even the most primitive objects, the power of reproducing visual perceptions having evidently suffered. In a similar case of aphasia complicated with insufficiency of the aortic valves, where the patient could not name the most ordinary objects, or repeat their names when they were told her, nor even copy simple drawings, a softening of the anterior part of the left temporal lobe, and of the first temporal convolution were found. The art. fossæ syl. and its branches were not affected. In a case of insufficiency of the aortic valves extravasations were found in both anterior central convolutions, although no distinct symptoms of paralysis had been observed during the patient's life.

25. *Soft Cancer of the Liver co-existent with a Hydatid Cyst*.—The subject was a healthy man. He was suddenly taken ill with abdominal pain and collapse, and it was supposed that a hydatid tumour had burst into the peritoneal cavity, setting up a mild peritonitis. Three weeks after, some masses were felt, which led to the suggestion of cancer, and cancer cells were subsequently found in some fluid removed by a trocar and cannula; and a month after, equally conclusive evidence of the presence of a hydatid was obtained by the same means. The patient died, and the correctness of the diagnosis was established by an inspection. But further than this, hydatid elements were found in the substance of

some of the cancerous nodules in the liver, and from this it is argued that possibly the hydatid cells may have developed into cancer cells. This view is not tenable on the slight grounds given by Mr. Ralph. It is far more likely that the hydatid acted as a local stimulus to the development of cancer in the tissues surrounding it in the same way as it excites inflammatory changes in those tissues. A case of this kind in the kidney has been recorded in the Transactions of one of our London Medical Societies.

JAMES F. GOODHART, M.D.

26. *Riess upon Heart and Stomach Sounds.*—Riess supplements to his former observations upon consonance of the stomach accompanying the heart sounds in obliteration of the pericardium. Three cases in which this sign was present were previously described by him; but, lest any doubt should still exist as to the connection between metallic consonance and pericardial synechia, he now publishes a fourth, in which recent pericarditis was followed by obliteration accompanied by the metallic sign. The patient was suffering from a second attack of articular rheumatism with slight cardiac hypertrophy. Dyspnoea and pericardial friction supervened suddenly, and extension of the cardiac percussion dulness soon followed. In order to relieve the increasing dyspnoea, the pericardium was tapped, sixty cubic centimetres of bloody serum being drawn off, and great relief followed. About fourteen days afterwards, a systolic murmur took the place of the first sound in the mitral area, and a diastolic aortic murmur, with accentuation of the pulmonary second sound, was also present. After the lapse of another fortnight, systolic retraction at the apex, in the sixth intercostal space, appeared, and, some weeks later, the phenomenon in question was developed. At the distance of a few yards, a rhythmic tympanic sound could be heard which, on auscultation, was made out to be the metallic resonating heart sounds. Of a purely musical character, the sound resembled the note of a violin-string, and was sometimes systolic, sometimes diastolic in rhythm; at other times it took up both heart phases. The phenomenon was occasionally of a metallic purring or gurgling nature, especially heard after the patient had drunk a quantity of fluid and assumed the prone position. The sound was heard by the patient himself, and by others at a little distance, and, like the musical note, varied in rhythm. The stomach was much dilated, reaching the navel. Riess believes that the musical sound is due to consonance, while the splashing is caused by shaking of the contents of the stomach, and, from having met with four cases in less than two years, he thinks the sign is not uncommon. In conclusion, he states that metallic consonance, along with systolic retraction of the apical area, is one of the most frequent and certain signs of pericardial obliteration. GEORGE A. GIBSON, M.B., D.Sc.

27. *Symptomatic Spasm of the Urethra.*—M. Spire's object in writing his thesis was to prove that idiopathic spasm of the urethra, if it really exists, is of exceedingly rare occurrence. Spasmodic contraction of the urethra is, according to M. Spire's opinion, strictly confined to the membranaceous portion, and never spreads either to the spongy portion or the neck of the bladder. The author has founded these conclusions on the results obtained by faradisation. If a sound, ending in a metallic ball, which is in communication with the negative pole of a pile, is introduced into the urethra, it will be seen that even if the sound is left for a considerable length of

time in the spongy portion of the duct, and if the current is very strong, no contractions are produced which would arrest the movements of the sound. If, however, the latter is introduced into the membranaceous portion, its further progress is suddenly arrested by a spasmodic contraction, which only ceases when the communication with the negative pile has been interrupted. If the pile is again closed, and the sound moved towards the bladder, no contraction follows. This proves that the spasm only exists in the membranaceous portion. As far as the etiology of the spasmodic contraction is concerned, the causes may be said to be very numerous; they are either of eccentric origin (cystitis, lesions of the bladder, strictures of the penis), or there may be some lesion of the nervous centres, or else a sudden chill, excess of drink, gout, etc. As the spasm is only a symptom of some other disease, the treatment must be carried out with reference to the primary affection.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

1. ATKINSON.—On the Treatment of Indolent Ulcers by means of Sheet-lead. (*Pract.*, May 1879, p. 30.)
2. ANDREWS.—On the Treatment of Piles by Injection. (*Chicago Med. Jour. and Examiner.*)
3. BERTHERAND.—On the Use of *Arenaria Rubra* in Gravel and Catarrh of the Bladder. (*Journ. de Pharm. et de Chimie*, Nov. 1878.)
4. BROOKHOUSE.—On Low Diet, Rest, and Iodide of Potassium in the Treatment of Aortic Aneurism. (*London Med. Rec.*, 1878, p. 517; and *Lancet*, June 1879, p. 867.)
5. Coma following a small Hypodermic Injection of Morphia. (*Brit. Med. Jour.*, May 1879, p. 793.)
6. DINGLE and ALFORD.—On Nitrite of Amyl in Seasickness. (*Lancet*, May 1879, pp. 650, 687.)
7. DOBIE.—On Aconite in Pneumonia. (*Pract.*, June 1879, p. 401.)
8. FOSTER.—On the Use of Etherised Cod-liver Oil. (*Brit. Med. Jour.*, June 1879.)
9. GASQUET.—On the Action and Uses of Belladonna. (*Pract.*, May 1879, p. 324.)
10. MILROY.—On Gurgun Oil in the Treatment of Leprosy. (*Med. Times and Gaz.*, June 1879, p. 643.)
11. MADER.—Injections of Colchicin in Sciatica. (*Krankenhausber. d. Rudolf-Stift. in Wien.*, 1878.)
12. MARINO.—On Subcutaneous Injection of Ergot in Neuralgia. (*Gaz. Clin. di Palermo.*)
13. NEUBERT.—On the Use of Salicylic Acid in Whooping-Cough. (*Jahrb. f. Kinderheilk.*, No. xiii, p. 83.)
14. PARSONS.—On the Toxic Effects of Linseed-Meal. (*Brit. Med. Jour.*, May 1879, p. 773.)
15. PARSONS.—On the Use of Sulphur in Acne. (*Ibid.*, June 1879, p. 852.)
16. PEARSE.—On Carbolic Acid Enemata in the Treatment of *Ascaris Vermicularis*. (*Ibid.*, June 1879, p. 853.)
17. PETER.—On the Use of Agaricum in the Night Sweats of Consumptive Patients. (*Bull. Générale de Therap.*, No. 6, March 30, 1879.)
18. REGONI.—On Spasms of the Phrenic Nerve treated with Ether-Spray. (*Memorab.*, 5, 1879.)
19. RIDDELL.—On Nitrite of Amyl as an Antidote to Chloroform-Poisoning. (*Dublin Med. Jour.*, April 1879.)
20. SAWYER.—On Oleate of Zinc in Eczema. (*Brit. Med. Jour.*, April 1879, p. 586.)
21. SHEEN.—On Iodoform in Chancre. (*Pract.*, May 1879, p. 321.)

22. SMITH.—On Chloral Hydrate as a Hypnotic. (*Lancet*, March 8.)

23. SQUIRE, BALMANNO.—On Mistura Guaiaci in Clear Solution. (*Brit. Med. Jour.*, May 1879, p. 736.)

1. *The Treatment of Indolent Ulcers by Means of Sheet-Lead.*—Dr. F. P. Atkinson urges the use of this simple, cleanly, inexpensive, and effective remedy. A piece of sheet-lead is moulded upon the ulcer and kept there by an ordinary calico bandage. [Dr. Atkinson, in *The Lancet*, vol. ii, 1865, page 529, previously published the results of his experience of this mode of treatment, which doubtless induced many practitioners to try the method. In the reporter's practice it has proved, from time to time, highly satisfactory.—*Rep.*]

2. *Treatment of Piles by Carbolic Injections.*—The following rules for the treatment of piles by hypodermic injection of carbolic acid are given by Professor E. Andrews. 1. Inject only internal piles. 2. Use diluted forms of the remedy at first, and stronger ones only when these fail. 3. Treat one pile at a time, and allow from four to ten days between the operations. 4. Inject from one to six drops, having smeared the membranes with cosmoline, to guard against dripping. Inject very slowly, and keep the pipe in place a few moments, to allow the fluid to become fixed in the tissues. 5. Confine the patient to bed the first day, and also subsequently if any severe symptoms appear. Prohibit any but very moderate exercise during the treatment.

3. *Use of Arenaria Rubra in Gravel and Catarrh of the Bladder.*—The author says that this plant, which belongs to the Caryophyllæ, and grows in the neighbourhood of Algiers, is a very useful drug in catarrhal affections of the bladder. It is taken in the form of decoction, the dried plants being more efficacious than fresh ones. After the treatment has been continued for a few days, the putrid smell of the urine disappears, and the patients improve in general health. The plant is odourless, and has a sweetish flavour, not unpleasant to the taste.

4. *Low Diet, Rest, and Iodide of Potassium in the Treatment of Aortic Aneurism.*—In the LONDON MEDICAL RECORD for 1878, page 517, two cases thus treated, under Dr. Brookhouse's care, are reported. One died suddenly, after great apparent improvement; and the other, at the date of the communication, February 23rd, 1878, was, *de facto*, well. In the *Lancet*, June 1879, page 867, are further details of the patient, bringing his history up to May 1879, at which date his condition remained unchanged, and such as to warrant the case being recorded as a success—the first Dr. Brookhouse has met with during twenty-five years' experience.

5. *Coma following a Small Hypodermic Injection of Morphia.*—A case is reported where coma followed a five-minim dose of the ordinary liquor. Examination proved that the urine was loaded with albumen. The patient was suffering from gall-stones, and, having had several attacks, was accustomed to obtain relief by the use of morphia without any untoward results. [In the *Lancet*, November 1860, page 488, Dr. Richardson stated, in a paper on uræmia, read before the Medical Society, "That in many cases, where death is supposed to have occurred from the effects of

small doses of opium or other narcotics, he believed that the cause was attributable to uræmia, and that so-called idiosyncrasies were probably intimately connected with renal disease."—*Rep.*]

6. *Nitrite of Amyl in Sea-Sickness.*—Messrs. Dingle and Alford corroborate the testimony of Mr. Clapham (*vide* LONDON MEDICAL RECORD, October 1878, page 443) as to the very great value of nitrite of amyl in sea-sickness. Three or four drops inhaled are generally sufficient to arrest and cure all the distressing symptoms attending this "demon of the sea".

7. *Aconite in Pneumonia.*—Dr. Wm. Dobie records four cases of severe pneumonia, at the respective ages of 42, 20, 68, and 4 years, all of which yielded rapidly to the exhibition of this drug. Dr. Dobie does not claim this as a new plan of treatment, but feels that more attention ought to be directed to the great potency of aconite in controlling pneumonic, as well as other forms of inflammation. All the cases were seen within twenty-four hours from the onset of the attack, and it is chiefly then that aconite is so valuable. In two cases the hypnotic effects of aconite were well marked.

8. *The use of Etherised Cod-Liver Oil.*—In the *Lancet*, March 1870, page 380, Dr. Balthazar Foster, drew attention to the great power that ether possessed of increasing the pancreatic secretion, and for this reason aiding the system in digesting fats generally, and cod-liver oil in particular. Dr. Foster had previously read a paper upon the subject before the medical section of the British Medical Association during 1868. In the *British Medical Journal*, June 1879, the report of the New York Therapeutical Society's Committee is given. Ninety-four cases are dealt with, and the committee are of opinion that the evidence warrants the following conclusions:—1. That the addition of ether to cod-liver oil, in the proportion of fifteen minims to each half ounce, will succeed in the vast majority of cases in enabling the patient to take the oil, even though it previously disagreed. 2. That in some cases, in which the oil still disagrees, after the addition of the ether, the difficulty may be overcome by giving the ether separately, from fifteen to thirty minutes after the oil. No facts have been laid before the committee having a bearing upon the question, as to whether the etherised oil is superior to the plain oil in its ultimate effect upon nutrition, supposing them to be equally well tolerated by the stomach.

9. *The Action and Uses of Belladonna.*—Mr. J. R. Gasquet read a paper upon this subject at the Brighton and Sussex Medico-Chirurgical Society. He believes that all the effects of belladonna may be explained by supposing it paralyses the peripheral nerves belonging to the cerebro-spinal system, except those supplying the voluntary muscles; while it has no effect upon the nerves derived from the sympathetic. [Harley and Meryon both believe belladonna to be a stimulant of the sympathetic.—*Vide Lancet*, June 1874, p. 903.—*Rep.*] Belladonna relaxes spasm of the involuntary muscles; hence its great value in many diseases. The power it possesses of checking night-sweats in phthisis is undoubted, but Mr. Gasquet questions whether this result is always an un-mixed good, especially if the pyrexia be high, as the perspiration seems to be of service in reducing temperature. [In the *Practitioner*, vol. ii, 1878, p. 187,

Dr. Fothergill brings forward facts and cases to prove the great advantage, and indeed the imperative necessity, of checking night-sweats in phthisis, whereas, in the LONDON MEDICAL RECORD, May 1879, p. 177, M. Rousselot contends that unless abundant sweatings exist, with a normal flow of urine and frequent diarrhoea, it is not wise to check them. As bearing upon this question, the experiments of Dr. Ringer, published in *The Lancet*, vol. ii, 1878, p. 473, proving that profuse sweating, following the use of pilocarpine, does not alter the temperature in attacks of intermittent fever, are instructive.—*Rep.*] Mr. Gasquet further notices the great value of belladonna in cases of collapse from shock; in sun-stroke; in those cases of so-called malignant, scarlet, and other fevers, where the patient is struck down at once and dies speedily; in cases of adynamic fever, as used by Dr. Harley. In all of these cases the drug acts by setting the heart free from the influence of the vagus nerves, and thus checking inhibitory actions. The value of combining belladonna with morphia to prevent nausea, when used hypodermically, and also to prevent the ill effects of opium, when given in the cough of phthisis, is clearly stated. [A reference to sections 375 to 378 of the *Medical Digest*, will convey a very fair conception of the value of belladonna in treating diseases, more than threescore affections being supposed to be capable of relief by its use, while many additional channels for its exhibition have been pointed out since the publication of this work.—*Rep.*]

10. *Gurjun Oil in the Treatment of Leprosy*.—Dr. Gavin Milroy, in a report on the Leper Asylum of British Guiana for 1877, states, as the result of the use of gurjun oil, that, of thirty-two cases, twenty-five were greatly benefited. "Thus, in this oil, we appear to have a most valuable medicine for the treatment of leprosy in all its forms; one capable of improving and retarding the ravages of the disease, in some cases appearing to cure it; but whether this benefit will be transitory, or whether the symptoms will return, can only be learned by further experience in its use." [It was Dr. J. Dougall who, in 1873, first suggested the use of gurjun oil among the convicts of the Andaman Islands. In each of twenty-four cases in which it was used, marked improvement occurred (vide *Medical Times and Gazette*, June and September 1874, pp. 683 and 586).—*Rep.*] RICHARD NEALE, M.D.

11. *Injections of Colchicin in Sciatica*.—The author tried the effects of this remedy, which has been recommended by Heizfelder in chronic sciatica (*Krankenhausber. d. Rudolf-Stiftung*, in Wien, 1878). The injections were accompanied by great pain, and for some days the vicinity of the place where it had been made was tender to pressure and swollen. No satisfactory results were obtained.

12. *Subcutaneous Injection of Ergot in Neuralgia*.—The author publishes the results of his experiments with ergot. 1. In tic douloureux local injections of ergot give better results than any other remedies, quinine included. 2. The results are equally good in hemicrania. 3. In some cases of sciatica very good results have been obtained, while in other cases no relief has been afforded to the patient. 4. Ergot should be administered in other cases of neuralgia, especially if the latter is caused by blood-poisoning or cachexia. 5. The injection itself is often painful, but abscesses do not often supervene. The pain generally ceases in half an

hour, especially if a cold compress has been immediately applied to the place. The neuralgic symptoms, as a rule, disappear after one or two injections; but it is advisable to continue them for some time. 7. The dose for one injection varies from 15 centigrammes to 2 decigrammes of ergot dissolved in water or glycerine.

13. *On the Use of Salicylic Acid in Whooping-Cough*.—The author, [who holds Letzerich's views concerning the parasitic nature of whooping-cough, advocates the use of a pulverised one per cent. solution of sal. of soda in intervals of from one to two hours. In a family where he had the opportunity of testing its powers, two of the children had frequent severe paroxysms of cough, and a third showed suspicious symptoms. The first two children were cured in a fortnight, and the third little patient did not catch the cough.

14. *On Toxic Effects of Linseed Meal*.—Dr. J. G. Parsons records a series of cases in which the use of linseed-meal poultices produced symptoms of well-marked urticaria. In a man, not only a poultice, but even carrying a parcel of meal to a neighbour, although he was ignorant of its contents, caused swelling of his eyes and face. A marked case also occurred in the mother of a child suffering from pneumonia. She was seized with a sharp attack of urticaria, and symptoms somewhat resembling hay-asthma, after applying a linseed-meal cataplasm to the child's chest, a second application of the poultice causing so severe a relapse that the lady did not recover for several weeks. The lady stated that the smell of the linseed-meal was to her as pungent as pepper.

15. *Sulphur in Acne*.—Dr. Parsons reports two severe cases of acne, which, after some years of unsuccessful treatment, yielded to a few applications of the pure dried precipitated sulphur powder. [Various modes of applying sulphur in acne have been proposed since Mr. Erasmus Wilson first used the drug, references to which are made in the *Medical Digest*, section 29, 3. Since the publication of this work, two interesting papers have appeared upon the same subject in the *Lancet*, vol. ii, 1878, pp. 182, 215.—*Rep.*]

16. *Carbolic Acid Enemata in the Treatment of Ascaris Vermicularis*.—Mr. J. S. Pearse speaks highly of the value of carbolic acid, diluted with forty to sixty parts of water, in curing this sometimes troublesome affliction. In no case have serious symptoms arisen, although not unfrequently, giddiness, singing in the ears, clammy skin, and a taste of the acid in the mouth, have been noticed. [In the *Lancet*, February 1869, page 248, Dr. Kempler reports the success that has followed the use of the acid internally in one-quarter grain doses, combined with one drachm in four ounces of water used as an enema.—*Rep.*] R. NEALE, M.D.

17. *Agaricum in the Night-Sweats of Consumptive Patients*.—Professor Peter says, in his lectures on the treatment of tuberculosis, that agaricum is one of the most efficient drugs for curing the debilitating night-sweats of tuberculosis. The drug is not new; it was first mentioned by De Haen, and Andral experimented with it in the Hôpital de la Pitié. He proved that it has the power of preventing the sweating, and that it may be given in doses of two grammes without provoking any digestive trouble; a dose of three grammes induced an attack of diarrhoea. He used to give

it in doses of 20 centigrammes. Trousseau ordered the same dose to be taken two hours before bedtime, and always found it answer very well, except in cases of very great cachexia, where the sweating was much reduced, though not entirely suppressed. Peter gives it in doses of from 20 to 30 centigrammes with good effect. He illustrates its power by several cases in which it has proved efficient; of which we here quote the case of a young man who suffered from consumption, and had very profuse night-sweats. After entering the Pitié, these sweats continued during the day-time also, and the patient was much reduced by them. Twenty centigrammes of agaricus were given him, and the night-sweats disappeared. The treatment was continued, and, six weeks later, the patient had regained flesh, felt much better, and left the hospital.

18. *Spasms of the Phrenic Nerve treated with Ether-spray.*—Dr. Regoni reports the following case: The patient had for eight days previous to his admission to the hospital been suffering from a continuous and very violent hiccough, which he attributed to having eaten a large quantity of vegetables and macaroni. The hiccough had began an hour after the meal, and had increased in violence, so that the patient could neither eat nor sleep, and was very weak. Every attempt to take food, or even water, increased his sufferings, and was followed by bilious vomiting. While examining the patient, the author was struck by the violent and incessant movements of the diaphragm, the thorax being comparatively quiet. The patient complained of dyspnoea, and was slightly cyanotic. The stomach was much dilated and tympanitic on percussion. Pulse and heart were normal. The diagnosis, "spasm of the phrenic nerve", having been made, a spray of sulphuric ether, was directed for ten minutes, first to the epigastrium, then for five minutes on both sides of the throat. During the *séance* the hiccough decreased in violence and frequency; another application was made in the course of the forenoon, after which the patient slept for two hours. The treatment was repeated several times in the course of this day and the next, and the patient recovered.

19. *Nitrite of Amyl as an Antidote to Chloroform Poisoning.*—In one of my voyages, says Dr. Riddell, one of the passengers had brought some chloroform on board for toothache. I was summoned in haste to her cabin, and found her quite insensible, pulse not perceptible, and evidently dying. Fortunately, though the nitrite was not in the ship's surgery, I had brought some to experiment with. After inhaling a few drops, the heart's action was quickened and strengthened. Three or four times we had to repeat the inhalations before she was out of danger. It is so antagonistic to chloroform that I am of the opinion that it should be at hand at every operation in which chloroform is given.

20. *Oleate of Zinc in Eczema.*—Dr. James draws attention to the great value of this agent, which was so highly spoken of by Dr. Crocker in the *Journal* for October 1878, page 622. After an extensive use of the oleate of zinc, with one or two parts of lard or vaseline, Dr. Sawyer most unequivocally commends its use, having found it one of the most useful remedies that we possess for eczema. At: page 652, April 1879, Dr. Crocker states, after giving Mr. John Marshall the credit of introducing the oleates into the pharmacopœia, "In the discharging stage of eczema, in intertrigo, and wherever there is an abraded or irritated skin, it

will be found extremely efficacious. In some cases it is preferable to dilute the oleate with three or four times its bulk of vaseline".

21. *Iodoform in Chancre.*—Dr. Alfred Sheen corroborates the testimony already given in favour of the use of iodoform in chancre, it being, as Dr. Sheen terms it, a reliable remedy. Several typical cases are reported, showing its very remarkable influence in healing this class of sores. [The *Medical Times and Gazette*, March 1875, p. 345, contains a report of the experience of Professor T. Profeta, of Palermo, of iodoform as a local application to hard and soft chancres. The results were such that, from a confirmed sceptic as to its value, Professor Profeta became an earnest believer, and cured many cases that had resisted all other modes of treatment. The expense of the drug and its penetrating odour are the two great drawbacks to its general use. The latter difficulty, however, is now readily removed by adding tannin to the powder or tincture.—*Rep.*]

22. *Chloral Hydrate as a Hypnotic.*—Mr. J. H. Smith writes: I judge from my own observations, contrasted with the recorded experience of others, that chloral hydrate, when given simply with the view of inducing sleep, is often prescribed in needlessly large doses. I have proved the power of very small doses, both on myself and my patients. I have been troubled for many years with a tendency to lie awake after sleeping for three or four hours, when, after courting the "dull god" in vain, sometimes for hours, I find that, nine times out of ten, four grains of the hydrate induces sleep in about ten minutes, a sleep which generally lasts for two or three hours, and is followed by no unpleasant symptoms whatever. I find the same results in many patients who merely suffer from nervous wakefulness, without pain or cerebral disease. I have found it invaluable in some cases of phthisis in an early stage. So small a dose, too, is perfectly safe in heart disease. I have succeeded better in the case of women than of men, especially if, like myself, they are not in the habit of taking alcoholic stimulants. Doubtless if taken every night this small dose would in time become inoperative. I have not taken it myself (nor recommended it to patients) on an average more than twice a week, sometimes with longer intervals.

23. *Mistura Guaiaci in Clear Solution.*—Mr. Balmanno Squire suggests the mixture of half a drachm or a drachm of the tincture of guaiacum, made with rectified spirit, with one or two drachms of glycerine. By this method the pungent, nauseating flavour of the drug is considerably less objectionable, and the mixture is free from cloudiness.

R. NEALE, M.D.

PATHOLOGY.

RECENT PAPERS.

1. BERGUEIN.—On Atrophy of the Lower Extremities in Coxalgia. (*Thèse de Doct.*, Paris, 1877.)

2. BOCQUET.—Atrophy of the Deltoid Muscle resulting from Arthritis of the Scapulo-Humeral Joint. (*Thèse de Paris*, 1878.)

3. BERGER.—A Case of Atrophy of the Epitrochlear Muscles. (*France Méd.*, p. 537, 1877.)

4. DARDE.—On Atrophy resulting from Affections of the Joints. (*Thèse de Paris*, 1877.)

5. HAYEM.—Researches on the Pathological Anatomy of Muscular Atrophy. (Paris, 1877.)
6. SABATIE.—On Muscular Atrophy following Fractures. (*Thèse de Paris*, 1878.)
7. URDY.—Remarks on Blennorrhagic Rheumatism and Consecutive Muscular Atrophy. (*Ibid.*, 1878.)
8. VERGNES.—On the Semeiological Import of the Accumulation of Subcutaneous Fat in Muscular Atrophy. (*Ibid.*, 1877.)
9. VALSAT.—On Muscular Atrophy following Affections of the Joints. (*Ibid.*, 1877.)

1. *Atrophy of the Lower Extremities in Coxalgia.*

—It is a well-known and established fact that coxalgia is always combined with a diminution of the size of the lower extremities, which affects both the bones and the muscles. In his article, M. Berguieu has published an extensive series of measurements, from which it results that the change in the bones is due to an arrest in their growth rather than to true atrophy. This view of the case is supported by the fact that atrophy of the bones is never met with in cases where the patients reached their eighth year before they were attacked by coxalgia. The muscles, on the contrary, become atrophic in almost every case of coxalgia, and the atrophy is much more marked in cases where the affection of the hip-joint is one of long standing, or where supuration has set in, than in recent cases, or such as have not suppurated. It attacks equally all the muscles of the leg, foot, thigh, and even of the abdomen.

2. *Atrophy of the Deltoid Muscle.*—This paper merely contains a short exposition of Professor Vulpian's views on muscular atrophy resulting from arthritis. In some cases, the irritation of the sensory nerves of the synovia reacts on the trophic nerve-centres from which spring the motor nerve fibres, and suspends their action. In other cases, the atrophy of the nutritive centres is owing to a perversion of the trophic action. According to this hypothesis, the affection may be regarded as a true reflex atrophy. The best mode of treating it would be by electricity. Both the constant or the faradic current may be used, but the treatment must be continued regularly for some time.

3. In this case, quoted by M. Berger, the patient had been obliged to keep his arm immovable for about a month on account of an attack of acute arthritis, which had come on after the reduction of a luxation of the elbow. At the end of this time, the epitrochlearius muscles were so much reduced in size, that the prominence which, as a rule, marks the course of the pronator teres, had disappeared, leaving in its stead a deep depression. The other muscles of the forearm were healthy. The atrophy only disappeared after five months' treatment with descending currents.

4. *Atrophy from Joint Affections.*—The author draws attention to the fact that the muscles situated immediately above the diseased joint become atrophic; at the same time the bones also are affected, and the member is often considerably shortened. The atrophic muscles are either soft and flaccid, or hard and rigid. The contractions and retractions of the sinews may become permanent. In some cases, the cutaneous sensibility of the affected region has been much diminished. These troubles have often been known to result from apparently slight articular lesions. They must not be trifled with, for if not treated, they may last for a very long time and invade the neighbouring

muscles and joints. If a suitable treatment is adopted, they may be cured in a few weeks. The author does not pronounce any definite opinion as to their etiology, but suggests that they might be explained by some reflex action acting on the nutrition of the muscle. He advises the use of the constant current in treating this affection.

5. *Pathological Anatomy of Muscular Atrophy.*—The author has endeavoured to draw up the anatomopathological history of muscular atrophy, independent of the different pathological causes. He includes under the name of muscular atrophy all those muscular affections in which the striated fibres have either entirely disappeared or only become much reduced in size. In the first chapter of his book he enters fully into the structure of the normal muscular tissue and the modifications which the striated substance is apt to present under certain conditions. We here give a short *résumé* of the conclusions at which he has arrived in his researches on the influence of traumatic lesions or certain chemical agents on the formation of vitreous deposits, and on the changes which the muscle undergoes in the dead body. 1. The vitreous transformation of the muscular fibres is not merely a modification caused by death, but a change peculiar to living fibres, probably due for the greater part to the contractile power of the fibres. 2. The loss of vitality of the muscular fibres can be anatomically recognised by a peculiar change which takes place in the striated substance, and by the fact that certain fluids no longer possess the power of transforming it into the vitreous substance. 3. The muscular fibres resist the process of decomposition for a certain length of time. When putrefaction has finally set in, the changes produced in the fibres are such that they cannot be mistaken for pathological alterations, except in the frog, where the changes wrought by putrefaction do not differ much from changes which would take place in degenerated *intra vitam*. The second chapter contains the anatomopathological history of the muscular tissue. It begins by a general survey of the lesions of the striated substance (modification of the striæ, loss of transparency, simple atrophy, diverse degenerations), of the muscular cells (tumefaction, multiplication, neoformation, atrophy, degeneration), of the sarcolemma, the perimysium of the vessels and intra-muscular nerves. The author then proceeds to describe the changes occurring in the muscles, which correspond to the various causes of muscular atrophy. Atrophies caused by some nervous affection are most frequently met with. In cases where the atrophy is merely the consequence of a simple suppression of voluntary stimulation (hemiplegia originating in some cerebral affection, prolonged inactivity, etc.), the muscular lesions are not very important. A few fibres have become atrophic, and the rest have retained their original size, and merely undergone a very slight degree of granulo-pigmentary degeneration, which gives the muscles a brownish colouring, that has long ago been pointed out by M. Charcot. When the atrophy is caused by some destructive lesions of the cells of the anterior horns of the spinal cord, the affection assumes a greater importance. In acute central myelitis, of which three cases have come under the author's notice, the muscular fibres undergo an acute fatty degeneration, they become opaque and their nuclei are swelled. In infantile paralysis, and in chronic affections of the spinal cord (progressive muscular atrophy, sclerosis, partial myelitis, etc.), the muscular fibres present numerous modifications.

Some are merely atrophic, with occasional proliferation of their nuclei; others are undergoing a granular degeneration, which is attended during its first stages by a considerable multiplication of the nuclei, and, during the latter stages, by atrophy of the same. In a third class, the fibres are infiltrated with pigmentary granulations, or present certain modifications in the structure of their striæ. The existence of vitreous degeneration in amyotrophias due to some spinal affection has not yet been sufficiently proved. As the muscular fibres become atrophic, the connective tissue becomes thicker, and is covered with a layer of fat cells. Similar changes have been observed in amyotrophia, following the lesions of nerves (neuralgia, neuritis, traumatic lesions, etc.) After having stated and criticised the different opinions which have been emitted by various authors on the pathological physiology of these muscular atrophies, which are closely allied to changes in the spinal chord or the nerves, the author ranges himself among the partisans of the theory of the trophic effects. He admits that the cells of the anterior horns of the gray substance of the medulla exercise both a motor and trophic influence on the corresponding muscles, and that this effect is transmitted by the medium of the motor nerves. It results from this, that any change which is capable of suppressing or diminishing the influence of the medullary cells on the muscles, will be followed by paralysis and atrophy. In one of the most remarkable portions of his work, the author exposes his views on atrophy of the muscles resulting from dyscrasia; acute starvation does not produce any notable alterations in the muscles, but acute marasmus always gives rise to very considerable lesions. The muscles are semi-transparent and of a purplish colouring; they are soft, viscous, sticky; their vessels are filled with blood; every trace of interstitial fat has disappeared. If the fibres are examined while yet fresh, they seem to have grown thinner, they are semi-opaque, and present the appearance of having been covered with dust. Some of them consist apparently of a semi-liquid grayish substance, in which hardly any traces of striation are left; others are undergoing fatty or granulo-pigmentary degeneration. The muscular cells are not increased in number, some of them have assumed the appearance of small vesicles. These changes in the muscular tissue attack all the muscles of the body, including the heart. The changes wrought by chronic marasmus do not vary much from those which have just been described. The wasted muscles are of a pinky gray tint covered with yellow lines and spots; they are soft and flabby. The microscopic lesions are diffused over the whole muscle, and may be described as simple atrophy, the striation still existing, granular degeneration, fatty degeneration, or pigmentary degeneration. Small hæmorrhages and accumulations of interstitial adipose tissue are frequently found in the perimysium. Muscular atrophy resulting from acute affections complicated with changes in the blood, presents altogether a different appearance. It may be limited to one particular region or be diffused over the whole system. In the latter case, the alterations in the muscular tissue resemble more or less those observed in acute marasmus; the muscles are congested, the striation appears blurred and indistinct, and the sarcolemma is in a state of partial degeneration. The circumscribed lesions, on the contrary, have all the characteristic symptoms of inflammatory lesions; they are the principal cause of symptomatic myositis with its host of compli-

cations, such as hæmorrhage, suppuration, etc. The author winds up with a short sketch of muscular atrophy, due to poisoning with certain substances, or to primary affections of the muscles.

6. *Muscular Atrophy following Fractures.*—In this article, M. Sabatié has studied muscular atrophy following fractures of the limbs. This complication is a very frequent one, and has been observed and studied so far back as 1859 by Gosselin (*Gaz.*, pub. 1859), and Lejeune (*Thèse de Paris*, 1859). It affects both members which are compressed by some surgical apparatus, as well as those which are free and not compressed, and in its clinical features bears a strong resemblance to the amyotrophia caused by articular lesion.

7. *Blennorrhagic Rheumatism and Consecutive Muscular Atrophy.*—Muscular atrophy often comes on in the course of blennorrhagic or ordinary rheumatism, especially in very acute cases. It generally develops itself insidiously, and may break out either shortly after the first symptoms of articular affection have been manifested, or a long time after. Its foci of predilection are the muscles situated in the vicinity of the great articulations, and especially the extensor muscles; but it may be said, that no periarticular muscle is safe from its influence. Faradic and galvanic contractility are not destroyed in the atrophic muscles. The atrophy comes on suddenly, but progresses slowly and steadily, in some cases the muscles of a limb have been entirely destroyed, but fortunately this is only the exception not the rule. This affection has hitherto more or less resisted every mode of treatment; it seems, however, as if the use of constant currents had been followed by a slight improvement in the condition of the patient.

8. *The Accumulation of Fat in Muscular Atrophy.*—In a certain number of cases of muscular atrophy, the wasting of the muscles is hidden by an exaggerated production of adipose tissue in the deep layers of the skin. The existence of this subcutaneous fat may be proved by measuring the thickness of the folds of the skin in the affected region and in the healthy symmetrical part, and comparing the results. This formation of fat is not without semeiological importance, as it does not exist in all the various forms of muscular atrophy. According to the author, the subcutaneous layer of fat:—1st. Does not occur in the progressive muscular atrophy of the Aran-Duchenne type. 2nd. Is met with occasionally in infantile paralysis. 3rd. Exists as a rule in the other amyotrophias. The pathology of this abnormal development of the subcutaneous adipose tissue is not yet clear. It has been suggested by some that it might be caused by the fact that the cellular tissue must necessarily absorb a greater quantity of nutritive juice when the muscles are atrophic, and by others, that it is determined by the absence of movement in the muscles. Neither of these theories, however, is satisfactory, and it might perhaps be more logical to trace it back to some nervous disturbance, which would interfere with the combustion of fat, thereby causing the latter to accumulate in the subcutaneous connective tissue.

9. *Muscular Atrophy following Affections of the Joints.*—M. Valtat's work on muscular atrophy following affections of the joints is not of very recent date, but it deserves to be mentioned in this series of papers on muscular atrophy; for the reason that it again drew the attention of the medical profession to certain symptomatic amyotrophias which had been observed by Hunter, Bonnett, and Roux,

to occur after a sprain. It had also been pointed out by several surgeons as a possible complication of fractures and arthritis. Beziel, Collette, Sabourin, and others, mention it as occurring in the course of articular rheumatism (*Thèses de Beziel*, 1864; Collette, 1872; Sabourin, 1874), and Lefort has written a very able article on it in the *Bull. Soc. Chir.*, 1876. According to M. Valtat's theory, almost all acute or chronic spontaneous or traumatic affections of the joints react on the muscles which are in the more or less immediate neighbourhood of the affected joint, and cause either paralysis or atrophy. The former, in most cases, precedes the latter, and is generally only a partial and temporary affection. Atrophy, on the contrary, comes on more slowly, and is generally persistent. It may appear during the first days of the second week of the articular lesion. It does not pervade all the muscles to a similar extent, but is generally localised in the extensors (triceps, deltoid muscle, glutei, etc.). The characteristic symptoms are extreme emaciation of the affected region, and depression of normal prominences. Faradic contractility persists in most cases, but has been found to be much diminished in inveterate cases. When atrophy has once set in, it will persist till the affection of the joint has been cured, when a decided tendency towards improvement sets in. M. Valtat has performed numerous experiments on dogs and guinea-pigs, with most satisfactory results. In determining various artificial lesions of the joints, such as sprains, contusions, lacerations of the synovia, or injecting ammonia and mustard oil into the articulations, he has invariably found that the adjacent muscles become rapidly emaciated. On examining the muscular fibres under the microscope he found that they were simply atrophic, and that the striæ as well as the nuclei of the sarcolemma had remained unchanged. He advocates the treatment already indicated, the use of the constant current.

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- CUTTER, E.—Hereditary Tainta. (*Chicago M. J. and Exam.*, 1879, xxxviii, 337-348.)
- Disease of the Body as a Mental Stimulant. (*Cornhill Magazine; Pop. Sc. Month.*, N. Y., 1879, xv, 71-86.)
- POINCARÉ.—Sur la présence dans le sang et les tissus, sous forme sphéroïdale, de certains liquides non miscibles à l'eau et ayant pénétré par la voie pulmonaire. (Extract.) (*Compte-rend. Acad. de Sc., Par.*, 1879, lxxxviii, 661.)

ANATOMY.

RECENT PAPERS.

1. ACKROYD, W.—The Movements of the Iris. (*Jour. of Anat. and Phys.*, Jan. 1879.)
2. BASCH and HOFFMANN.—Innervation of the Uterus and of its Vessels. (*Wiener Med. Jahrbuch*, 1878.)
3. BERNAYS, D.—The Development of the Knee-Joint in Man, with Remarks on the Joint in Common. (*Morphologisches Jahrbuch*, 1878.)
4. BROCA, P.—On the Skeletons of Two Hindoos. (*Bullet. de la Soc. d'Anthrop.*, Paris, fasc. i, p. 47.)
5. BROCA, P.—On the Scapular Index in Man, Monkeys, and the Mammalia. (*Ibid.*)

6. BROESICKE, G.—Improved Method of Staining Sections. (*Med. Wissenschaft.*, 46.)
7. CATON, R.—Case of Absence of the Inter-Auricular Septum, without Cyanosis, in a Man aged 40. (*Lancet*, 1878, p. 252.)
8. CLELAND.—Remarkable Double Monstrosity of the Head. (*Journ. of Anat. and Physiol.*, Jan. 7, 1879.)
9. FICK, A. E.—On the Mechanism of the Hip-Joint. (*Arch. f. Anat. u. Physiol.*, part vi, 1878.)
10. FRANKL.—On the Development of the Human Decidua. (*Amer. Journ. of Obst.*, Oct. 1878.)
11. GRUBER, W.—Observations on Human and Comparative Anatomy. (*Monograph*, Berlin, 1879.)
12. GRUBER, W.—Absence of the Quadratus Femoris. (Virchow's *Arch. f. Path., Anat. u. Phys.*, B. xxxvii, H. 3, S. 346.)
13. GRUBER, W.—On the Closure of the Upper Angle of the Interosseous Space in the Leg. (His and Braune's *Arch. f. Anat. u. Phys.*, part vi, 1878.)
14. GRUBER, W.—On the Form of the Muscular Attachment of the Tendons of the Soleus. (*Ibid.*)
15. GRUBER, W.—On the Peroneo-Tibialis Muscle. (*Ibid.*)
16. HASSLOCH, W., of New York.—Researches on the Microscopical Structure of the Cornea. (*Arch. f. Ophthalmologie u. Otologie*, vol. xii, No. 1.)
17. HELFERICH, H.—On the Disturbances in the Growth of the Long Bones after Necrosis of the Diaphysis. (*Deutsch. Zeit. f. Chir.*, Band x.)
18. HENSEN, V.—Remarks on the Cupola Terminalis of the Ear. (His and Braune's *Arch. f. Anat. u. Phys.*, part vi, 1878.)
19. HOFFMANN.—Contributions to the Comparative Anatomy of the Vertebrata. (*Niederländisch. Arch. für Zoologie*, Dec. 1878.)
20. HOLL, M.—On the Nervus Accessorius Willisii. (*Arch. f. Anat. u. Physiol.*, part vi, 1878.)
21. HUNT, W.—Inequality in Length of the Lower Limbs. (*Amer. Journ. of Med. Science*, Jan. 1879.)
22. HUTCHISON, J. C., New York.—On the Anatomy of Talipes Varus. (*New York Med. Record*, Dec. 1878.)
23. JAMES, A.—Notes on the Tenacity of Tissue. (*Journ. of Anat. and Physiol.*, Jan. 1879.)
24. JOESSEL.—New Anomalies of the External Carotid and Internal Maxillary Arteries. (His and Braune's *Arch. f. Anat. u. Phys.*, part vi, 1878.)
25. KÖLHEKER, A.—The Development of Man and the Higher Animals. (*Monograph*, Würzburg.)
26. LANGER, C.—The Blood-Vessels of the Eyelids. (*Medicinisches Jahrbuch*, 1878.)
27. LELOIR, M.—Case of Congenital Malformation of the Arm. (*Soc. de Biologie*, Feb. 1879.)
28. MCKENDRICK.—The Action of Anæsthetics. (*Journ. of Anat. and Physiol.*, Jan. 1879.)
29. MACLAREN, J.—Case of Absence of Corpus Callosum. (*Edin. Med. Journ.*, Jan. 1879.)
30. RENAULT, J.—Notes on the Modifications occurring in the Form of the Fixed Cells of the Loose Connective Tissue as a result of Artificial Œdema. (*Gaz. Méd. de Paris*, 25 Jan. 1879.)
31. RENTON, J. C.—Notes on a Method for Measuring the Diameter of the Retinal Vessels. (*Journ. of Anat. and Physiol.*, Jan. 1879.)
32. ROLLESTON.—Note on the Preservation of Encephala by the Zinc Chloride. (*Ibid.*)
33. SNEDDON, W.—Numerical Anomalies of the Breasts. (*Glasgow Med. Journ.*, Feb. 1879.)
34. SORBY, C. H.—On the Colouring Matter of the Human Hair. (*Journ. Anthropol. Soc. of Great Britain*, Aug. 1878.)
35. STEWART, T. A.—Note on a Variation in the Course of the Popliteal Artery. (*Journ. of Anat. and Physiol.*, Jan. 1879.)
36. THIN, G.—The Optic Nerve Fibres and Ganglion Cells of the Mammalia. (*Ibid.*)
37. TOMES, C. S.—On the Structure and Development of Vascular Dentine. (*Trans. Roy. Soc.*, Jan. 1879.)

38. TURNER.—Exostosis within the External Auditory Meatus. (*Journ. of Anat. and Physiol.*, Jan. 1879.)

39. TURNER.—Report on Recent Memoirs on the Anatomy of the Brain. (*Ibid.*)

40. WILLIAMS, W. R.—The Anatomy of the Quadriceps Extensor Cruris. (*Ibid.*)

41. YOUNG, A. H.—Abnormal Arrangement of the Branches of the Femoral Artery. Note of the Absence of the Profunda Femoris. (*Ibid.*)

42. ZUCKUKANDL.—The Anatomy and Development of the Naso-Ethmoidal Region. (*Med. Jahrbuch*, 1878.)

2. *Innervation of the Uterus and of its Vessels.*—

The authors find that the uterus receives its motor fibres from two sources. Firstly, from branches of the hypogastric nerves proceeding from the posterior mesenteric ganglion; and, secondly, from nerve fibres issuing from the sacral plexus. They also show that there is a very distinct antagonism between these two sets of nerves. If the hypogastric branches be stimulated by electricity, contraction of the circular fibres of the uterus takes place, the cervix descends into the vagina, whilst the os opens. On stimulating the sacral nerves, the longitudinal fibres are made to contract, the uterus becomes shorter, and the os remains closed. Suppression of respiration, or stimulation of the sciatic nerve, acts in a reflex manner chiefly upon the hypogastric nerves. Their experiments also show that the vessels of the uterus obtain their nervous supply from the same sources as the muscular tissue, the hypogastric nerves supplying the constricting, and the sacral nerves the dilating fibres. The vessels can likewise be acted upon reflexly through the sciatics.

5. *The Scapular Index in Man and the Mammalia.*—The scapular index is the expression of the relation of the breadth of the scapula to its length, and is found by multiplying the breadth of the bone by 100, and dividing by the length. After measuring several scapulæ, M. Broca found that the average scapular index of Europeans is 65.9. He also measures the infra-spinous index, which is the relation of the breadth of the bone to the length of the blade below the spine. This, in Europeans, he found to be 87.8. He then compared these two indices with those of other races of men, and found that in the Australians, the Negroes, and other low races, that they were much higher. In this way he compared the whole mammalian series. The interest of the paper is, as might be expected, greatest to anthropologists and others engaged in the study of the comparative anatomy of man, as a race character.

6. *Improved Method of Staining Sections.*—Dr. Broesicke, assistant at the Pathological Institute of Berlin, recommends a combination of osmic and oxalic acid for staining tissues. Small pieces of the tissue, or prepared sections, may be placed for one hour in a one per cent. solution of osmic acid, and afterwards carefully washed so as to remove the superfluous acid. They are then to be immersed for twenty-four hours or longer in a cold saturated aqueous solution of oxalic acid, one to fifteen. At the end of that time they are ready for examination in water or glycerine. Oxalic acid produces darker or lighter shades of colour, according to the length of time the preparation has been in osmic acid.

17. *The Disturbance in the Growth of the Long Bones after Necrosis of the Diaphysis.*—In this paper Prof. Helferich gives careful measurements of the affected region in 141 instances in which necrosis

had attacked some part of one of the long bones. He shows that the relation between liability to disease and the rate of growth in a bone and also in the upper and lower ends of a bone, has been already noted by other observers, on the whole is correct. The chief exception is the tibia, which is more liable to necrosis than the femur, though its rate of growth is less. This is explained by the greater liability of the tibia to injury, which also causes its shaft to be more frequently affected than that of other bones. With this exception, necrosis is most frequent near the ends of the diaphyses, and in each case near that end at which the growth is the greater.

The numerous careful measurements which the author has made show that interference with the growth of the part affected is frequent, and he suggests that it is often overlooked in consequence of its being, in some instances, slight, and in others masked by a compensatory greater natural growth in the bone or bones of another segment of the limb. In the femur he found 13 instances of shortening to 3 of lengthening; in the tibia, 12 of shortening to 14 of lengthening; in the humerus, 4 of shortening to 1 of lengthening; in the radius, 2 of shortening. These interferences with the length do not take place after the growth of the bone has ceased and after the epiphyses are ankylosed to the shafts. They depend upon some influences exerted on the epiphysal cartilages by the disease. The lengthening is due to the prolonged hyperæmia attendant upon necrosis extending to the epiphysal cartilage, and giving an impetus to the cell formation there; and it is most frequent in the tibia, because the necrosis in that bone frequently affects the shaft; whereas in other bones the disease, in consequence of its being nearer to epiphysal cartilage, is more likely to cause destruction of the cartilage and consequent arrest of growth. Examples are quoted in which disease of the epiphyses, occurring in affections of joints, was attended with elongation of the bones, but that is rare in comparison with shortening from this cause. He alludes to the possibility of necrosis causing impairment and destruction of the nearest epiphysal cartilage and arrest of growth at that, the proximal, end, and merely inducing hyperæmia and increase of growth at the other and more distal end. Thus there would be diminution and increase of growth in the same bone, and produced by the same disease, affecting the two ends in an unequal degree.

The lengthening of the adjacent bones, which, though rare, may be associated either with lengthening or shortening of the diseased bone, is in either case to be attributed to the accession of blood-supply to the limb, which is in some way brought about by the disease, and like the similar change in diseased bone, it must be limited to the growing period of life.

The associated shortening of the adjacent bones may be attributed, as indeed may sometimes in part be that of the diseased bone, to inactivity of the limb. It is most frequently observed when the disease is in the proximity of a joint, the use of the limb being in such cases interfered with most.

The associated elongation of the adjacent bone, as in the case of the fibula when the tibia is elongated, may depend upon the accession of blood extending to the fibula, or, upon tension exerted upon it by the growing tibia, or by both causes. The resistance of the fibula may, however, limit the elongation of the tibia, or may cause it to assume a curve, as has been observed

by Paget and Stanley. In some instances, however, the fibula has not been thus elongated, but has undergone luxation from the upper part of the tibia, its lower end remaining fixed to the tibia, and the upper end being drawn away from it. Two cases of shortening of the tibia were observed by Humphry, in one of which the upper end of the fibula was luxated, and projected above its articular surface in the tibia, and in the other the lower end projected downwards and touched the ground. Other deformities resulting from the unequal length of the two bones of one segment of the limb are mentioned.

21. *The Inequality of the Lower Limbs.*—The author narrates in this paper that in some cases which have come under his notice there has been a marked difference in the actual length of the right and left lower extremity. In one instance they varied to the extent of three-quarters of an inch, without any noticeable halt in the walk of the individual. He confirms all that has been written on the subject by Dr. Wright of Philadelphia, and Dr. Cox of New York, and relates an interesting medico-legal case, in which this subject had an important bearing.

22. *Anatomy of Talipes Varus.*—In his lectures, delivered at the College of Physicians and Surgeons of New York, Dr. J. C. Hutchison gives an account of the anatomy of talipes varus. The appearances found on dissecting the affected parts vary with the degree of deformity and the age of the subject, but in all cases the structures of the limb undergo degeneration from want of proper use. The bones become lighter, and the limb is often shortened to the extent of half or one inch. In the severer forms, important deviations from the natural form and position are observed in some of the tarsal bones, this is especially noticeable in the astragalus, os calcis and scaphoid. The astragalus is directed downwards and forwards, its superior articulating surface becomes almost vertical, and only two-thirds of it are in contact with the articular surface of the tibia. Owing to the displacement of the scaphoid inwards, the outer portion of the anterior articular head of the astragalus can be felt on the dorsum of the foot, the external facet is in close contact with the fibula, whereas the internal facet is imperfectly developed. The neck is turned inwards, and this is chiefly the cause of the inversion of the foot. The changes in form and position of this bone are the result of the mechanical forces operating on the os calcis and scaphoid. The os calcis is also oblique, and in aggravated cases nearly vertical, from the contraction of the muscles of the calf; its tuberosity is inclined towards, and sometimes even in contact with the fibula. The anterior extremity is directed obliquely forwards and inwards. Sometimes the bone is arched outwards in its long axis. The scaphoid is drawn forcibly inwards and upwards, so that its tuberosity lies under and in contact with the inner malleolus and its long axis parallel to that of the astragalus. The position of this bone has the greatest influence in determining the grade of deformity. The cuboid and cuneiform bones remain nearly in their normal position. In adult cases, however, the cuboid is prominent on the dorsum of the foot. The muscles chiefly concerned in producing clubfoot are those of the calf and tibials. They are rigidly contracted, while the peroni and extensor longus digitorum are lengthened and kept stretched. It has been proved experimentally by Duchenne of Boulogne, that the action of the gastrocnemius and soleus is first to extend forcibly the posterior, and also the external half of the anterior

part of the foot, and, secondly, the moment the astragalus reaches its extreme point of extension, to cause the os calcis to glide on the articulating facet on the under surface of the astragalus obliquely from behind forwards, and from within outwards. This slipping of the os calcis on the astragalus produces a double movement of rotation of the os calcis on its greater axis, and on the axis of the leg, causing adduction of the foot, and turning outwards of its dorsal surface. The permanent contraction of those muscles is, therefore, sufficient of itself to cause slight cases of talipes varus. The tibialis anticus and posticus muscles, by their contractions, elevate the inner border of the foot and rotate it inwards. The tibialis posticus is sometimes so much contracted that its tendon is forced out of its groove behind the internal malleolus, and is situated on the outer side, or even in front of this process, and instead of running obliquely downwards and forwards, as it normally does, passes directly downwards to its insertion into the displaced scaphoid. The tendon of the tibialis anticus is very much displaced inward. It is of importance to bear this in mind when dividing it. The ligaments, and in some cases the inner portion of the plantar fascia, also help materially to keep up the deformity. They become shortened on the contracted side, and lengthened on the convex side, of the deformity, and present the chief cause of difficulty in treatment from the elasticity they possess. This elasticity is most marked in the contracted ligaments, and is one of the most frequent causes of relapses in conducting the treatment. The mechanical forces in talipes varus, therefore, are, 1st. The contracted muscles of the leg; 2nd. The contracted ligaments on the sole of the foot; and, 3rd. In some cases the shortened plantar fascia.

23. *The Tenacity of Tissue.*—This subject has been hitherto investigated more with the object of determining the ultimate rather than the proof tenacity of the various tissues. The distinction between these terms may be thus explained. By the ultimate tenacity is understood the utmost pull which a portion of tissue of known dimensions sustains just before being torn asunder. By proof tenacity is meant the pull such a portion can sustain without injury, or that pull, any excess of which, though not sufficient to tear it asunder at once, would ultimately do so if its application were often enough repeated, or long enough continued. In estimating the ultimate tenacity, the effects of the pull or weight only have to be considered, but in estimating the proof tenacity, there must be added to those the effects of time. That the latter is most important, both physiologically and pathologically, is very evident, as the arterial and venous, the urinary and other secretion pressures, cause strains which have to be borne by the various tissues, continuously or intermittently for long periods. To obtain information on this point, Dr. James made a series of observations on the small intestine and bladder of the sheep, and on the human ureter and bladder. The results he obtained show that strains and weights applied to the sheep's intestine less than the ultimate tenacity or bursting weight, in the proportion of one-third, seven-twelfths, and one-half, will cause rupture in certain definite periods of time. The experiments were conducted as follows. A portion of sheep's intestine three feet long was divided into three equal portions; each piece was fixed to a wooden core, by which means weights could be conveniently applied. The weight required to rup-

ture the two outer portions was successively ascertained by means of a spring weigher. The average of these weights was taken as representing the ultimate tenacity of the middle portion. To the middle portion the various fractions of the weights stated before were applied, and the time which elapsed between their application and the rupture of the gut noted. Great care was taken to have the conditions of the various portions of the gut the same as regards moisture, etc. It was thus ascertained that with the ultimate tenacity or bursting weight $\frac{1}{4}$, $\frac{1}{4}$ will cause rupture in about eight minutes, $\frac{1}{4}$ in forty-four minutes, and $\frac{1}{4}$ in 274 minutes. Observations with less than one-half were found not to give trustworthy results.

24. *Anomalies of the Carotid and Internal Maxillary Arteries.*—Prof. Joessel records three cases of irregularity of the carotid artery and its branches. In the first case, the common carotid gave off the superior thyroid artery, then divided at the level of the hyoid bone into the external and internal carotids. The external carotid gave off the lingual artery, and immediately above it the occipital and stylo-mastoid arteries, and a large branch to the sterno-mastoid muscle. It then divided into two branches. The anterior of these branches gave off the external maxillary, the inferior alveolar, and the internal maxillary, whilst the posterior branch gave off the posterior auricular artery. These two branches reunited behind the condyle of the jaw to form the superficial temporal, which was normal. In the second case, the common carotid divided normally. From the external carotid arose, first, the superior thyroid artery, then by a common stem the lingual and external maxillary in front, and the ascending pharyngeal behind. The artery then divided into two branches, the course and distribution of which were the same as in the previous case. In the third case, the external carotid divided at the angle of the lower jaw into the superficial temporal and internal maxillary; the former occupied the normal course of the external carotid, and the latter passed through the internal pterygoid muscle to the speno-maxillary fossa after giving off a large palatine branch. The inferior dental nerve lay, before entering the inferior dental foramen, upon the internal maxillary artery.

27. *Congenital Malformation of the Arm.*—In this subject the left forearm was atrophic. The hand had only three fingers—the thumb, forefinger, and a third long and voluminous finger; the two latter were entirely deprived of movement. The lower third of the ulna was very atrophic. The carpus consisted of only three bones, two of which had no definite shape, and presented a mixture of several bones, whilst the third was evidently the pisiform bone. Both the bones of the thumb and index were normal, although atrophic. The third finger might have been considered as middle finger, as far as the skeleton was concerned, but the peculiar distribution of muscles and nerves, together with the presence of the pisiform bone, rather suggested that it consisted of the union of the third and fourth fingers. The left lateral column of the spinal cord was also considerably atrophied.

29. *Absence of Corpus Callosum.*—The subject of this abnormality was a woman, who, from about her fourth year, had shown marked symptoms of insanity. She was never able to take care of herself, and was subject to epileptic fits. A shrill scream was the only approach to articulate sound she ever made. She was deaf and dumb, but possessed the senses of sight and taste. Reflex action and sensation were very dull.

Her power of walking was very limited, always requiring assistance, her gait resembling that of a hemiplegic patient, dragging the left leg. She possessed very slight power also in her hands. Her head was small, but symmetrical, with a high intelligent-looking forehead. On making a necropsy, her calvarium was found to be very dense and hard, but not thicker than usual; the sutures were all firmly closed. The dura mater was non-adherent and normal, the viseral layer of the arachnoid appeared dim and opaque at parts, but generally normal. The pia mater was non-adherent to the brain over both surfaces, except along the margin of the longitudinal fissure, where it became thickened and firmly attached, and when removed, left a roughened nodulated surface on the brain below. The sulci were normal, but the convolutions were extremely thin and narrow. There was a bulging of the interpeduncular space at the base of the brain, which, including the corpora albicantia and tuber cinereum was seen to be membranous, and presented a gelatinous pellucid appearance, evidently due to an accumulation of fluid in the third ventricle. On drawing the two hemispheres apart, all that could be seen of the commissural fibres of the corpus callosum was a thin white membranous structure, the fibres of which ran anteriorly and posteriorly. On making a horizontal section of the brain it was found that the lateral ventricles were enormously enlarged, that the septum lucidum was entirely absent, and that there was free communication between the ventricles. All that remained of the corpus callosum, which was now carefully dissected, were two narrow bands, one at the anterior, and the other at the posterior, extremity. The anterior band measured three-quarters of an inch across, while the posterior was only one-quarter of an inch. The membranous structure already mentioned sprung chiefly from the posterior attachment, radiated in a fan-shaped manner over each ventricle, and lined its cavity, and appeared to be the simple serous membrane usually found there. The body of the fornix was also absent, but in front and behind two bands of nerve matter arose from the white membrane, the posterior bands entered the descending horn of the lateral ventricle, while the anterior bands descended behind the anterior band of the corpus callosum. The enlargement of the lateral ventricles was at the expense of the white substance. The right optic thalamus and corpus striatum were softened. The encephalon weighed with the fluid 52 oz., and on that being removed, 43 oz.

30. *Modifications occurring in the Fixed Cells of Loose Connective Tissue in Artificial Edema.*—M. Renaut shows that in cedema, the fixed cells of the loose connective tissue are not arranged relatively to the connective web, and that a neutral liquid, not possessing any appreciable action on the anatomical elements, penetrating suddenly into the meshes of the connective tissue, breaks up the net-work of fixed cells, which are united together by prolongations or offshoots, and entirely alters the appearance of the tissue.

31. *Measurement of the Retinal Vessels.*—For this purpose, Dr. Renton uses an ordinary ophthalmoscope mirror, along with a two-inch biconcave lens, behind which, at a distance of two inches, is placed a micrometer carefully divided into square millimetres. The fundus of the eye occupies the position at which the micrometer is placed. In order to facilitate the working, he has the lens and micrometer fitted into a brass plate with a handle.

32. *On the Preservation of the Encephala by the Chloride of Zinc.*—Prof. Rolleston says that this method has been used to a considerable extent in the Anatomical Museum at Oxford, and has been found to answer very well. The method which has been described by Gratiolet of Paris, and Bischoff of Munich, consists in putting the encephalon in a solution of chloride of zinc for a few days before immersing it in alcohol. "Under this treatment the brain becomes more plastic and tough, less liable to chipping and breaking away in flakes than when treated simply with alcohol. Another advantage this new method possesses is that the pia mater can be stripped away with much greater ease and rapidity than can be done in brains hardened in spirit alone. The general appearance of a brain treated with chloride of zinc differs also, being much smoother and less grumous on the surface than in that treated in alcohol. In some animals, when the brain has been so soft as not to permit of being removed from the skull without being torn, Prof. Rolleston has been able to remove it quite uninjured by first applying a solution of chloride of zinc for some days after the skull cap had been removed, and while the brain was *in situ*. He uses Burnett's solution of the chloride of zinc undiluted.

35. *Variations in the Popliteal Artery.*—The artery, after passing through the opening in the adductor magnus, instead of running downwards and outwards towards the middle of the popliteal space, so as to be between the heads of the gastrocnemius muscle, passed almost vertically downwards internally to the inner head of that muscle. It reached the bottom of the popliteal space by turning round the inner border of that head, and then passed downwards and outwards beneath it—between it and the lower end of the shaft of the femur. The inner head of the gastrocnemius arose much higher up than usual, namely, from the linea aspera, about an inch and a half above the condyle, over which space the artery passed.

37. *On the Structure and Development of Vascular Dentine.*—In this paper the author details the results of a series of observations upon the development of vascular dentine, and the relation which it bears, in its completed condition, to the dental pulp; and endeavours to place the nomenclature and classification of the varieties of dentine upon a more satisfactory basis, by bringing them in accordance with the facts elicited by a study of development, which at present they are not. After describing the structure and development of the dentine in the mammalia, including man, Mr. Tomes summarises the results of his observations by saying that there are four varieties of dentine, which should be thus distinguished: 1. Hard unvascular dentine; 2. Vaso-dentine; 3. Plici-dentine; 4. Osteo-dentine. To the paper are attached some well-executed plates, which illustrate clearly the author's views.

38. *Exostosis within the External Auditory Meatus.*—Prof. Turner relates that in a cranium from Peru, which came into his possession lately, and in which there was well-marked artificial deformity, the frontal bones sloping backwards in an almost straight line from the glabella, he found the external auditory meatuses were almost occluded by hard ivory-like exostoses growing from within their walls. In the right meatus two of these exostoses were present; one, almost blocking up the orifice, arose from the anterior wall by a constricted peduncle: it was pea-like in form, and was nearly three-tenths of an inch in diameter; the other, more

elongated in shape, had a broad base of attachment to the anterior wall, and was more deeply situated than the pisiform exostosis. Those in the left meatus were very similar. The exostoses, both on the right and left sides, grew from that part of the meatus which was formed by the auditory plate of the expanded tympanic ring. In another skull, that of a flat-headed Chenook Indian, in the collection of the Museum of Science and Art in Edinburgh, he also found there were exostoses in the meatuses. Similar exostoses have been found and described by Prof. Seligmann, and also by Prof. Welcker. They were all chiefly found in artificially deformed skulls, but Prof. Turner does not think that this condition is due to the deformity of the skulls, as he has found it in crania that he has examined from the same parts of the world, which were not deformed; and the late Mr. Toynbee, when dissecting diseased ears, found it in 14 cases. There appears, however, to be a tendency on the part of the aboriginal inhabitants of the American Continent to possess modifications in the configuration of the external auditory passage.

39. *Report on the recent Memoirs on the Anatomy of the Brain.*—In this paper Prof. Turner gives a list and summary of the contents of all the various papers and monographs which have been published within the last few years on the anatomy of the brain, many of which have already been noticed in the MEDICAL RECORD.

41. *Abnormal Arrangement of the Branches of the Femoral Artery.*—The subject of this abnormality was a well-developed adult male whose body was dissected during the past winter in Owens College, Manchester. The irregularity existed only in the right lower extremity. The trunk of the artery was normal as regards its course and general relations, but its calibre was larger than that of the left femoral, and only slightly diminished at its termination. The profunda artery was entirely absent, and all the branches usually derived from this trunk came off directly from the femoral itself. Of those, the superficial ones presented no deviation from their normal position and arrangement. Of the deeper branches from above downwards, the first was a short trunk which arose from the posterior aspect of the femoral one inch below Poupart's ligament. This formed the common origin of the external and internal circumflex arteries. The internal of those took the usual course, and was distributed in the usual manner, whilst the external passed downwards and outwards beneath the rectus femoris and anterior crural nerve, and divided into two sets of branches, which correspond to the ascending and transverse branches as they normally exist. No descending branch was given off from the external circumflex, but its place was taken by a descending trunk, which arose separately from the femoral four inches below Poupart's ligament. Arising almost in common with it, but slightly to the inner side, was the third of the deep branches of the femoral. This passed internally, and was distributed to the adductor muscles and the gracilis, forming a large muscular branch. The next two branches were given off below the sartorius, and before the femoral entered Hunter's canal. The upper of these arose immediately below the apex of Scarpa's triangle, $5\frac{1}{2}$ inches below Poupart's ligament. It passed inwards under the profunda vein, distributed muscular branches to the adductors, and pierced the adductor magnus, just below the adductor brevis. From this branch the nutrient artery of the femur was derived. The lower of these branches rose one inch below the former. Passing

inwards, it crossed over the profunda vein, perforated the adductor magnus, and terminated on the back of the thigh, giving off several muscular branches in its course. Jointly, these branches appeared to take the place of the profunda and its perforating branches. Finally, the anastomotica magna was derived from the femoral in Hunter's canal, and its distribution was normal. It is interesting to note that, although the arterial abnormalities were so marked, yet the profunda vein was present and normal. The principal features of interest in this case chiefly concern surgeons, the femoral being the source of two large branches, instead of being entirely free, as is usually the case. Had the femoral been ligatured in this case for popliteal aneurism, returning pulsation in the aneurismal sac must have been considerably delayed, from the absence of large anastomosing trunks above the point of ligature.

J. G. GARSON, M.D.

PHYSIOLOGY.

RECENT PAPERS.

1. BASCH.—The Starting Point of the Heart's Rhythm. (*K. Gesellschaft der Aerztezeitung*, 7 March; abstract in *Wiener Med. Woch.*, No. 12, 1879.)
2. BERT, PAUL.—Protoxide of Nitrogen as an Anæsthetic. (Soc. de Biol., Séance March 29; reported in *Gas. Méd. de Paris*, April 26, 1879.)
3. BINZ, C.—A New Theory in Relation to Dreams. (Bonn, 8vo, 1878; abstract in *Centralblatt f. die Med. Wiss.*, Feb. 1, 1879.)
4. BOCHEFONTAINE, M.—Experimental Investigations upon Cerebral Lesions caused by Violent Blows upon the Vault of the Cranium. (Note communicated to the Soc. de Biol., Séance du Oct. 26, 1878; reported in *Gas. Méd. de Paris*, April 5, 1879.)
5. COATS, J., RAMSAY, W., MCKENDRICK, J. G.—Report of the Committee on Anæsthetics to the Scientific Grants Committee of the British Medical Association, on the Effects of Chloroform, Ethiden, and Ether, on the Blood Pressure. (*Four. of Anat. and Physiol., norm. and path.*, April 1879.)
6. DELAUNAY, M.—On the Tendency to Move to the Right or to the Left. (Soc. de Biol., Séance February 3; abstract in *Gas. des Hôpitaux*, March 18, 1879.)
7. EICHHORST.—The Influence of the Impeded Interchange of Gas in the Lungs in Man upon the Nitrogenous Material of the Kidney. (*Virchow's Archiv*, lxxiv, p. 201; abstract in *Centralblatt f. die Med. Wiss.*, March 8, 1879.)
8. EICHHORST.—The Trophic Influence of the Vagi upon the Muscles of the Heart. (Berlin, 1879, 8vo.; abstract in *Ibid.*, March 8, 1879.)
9. KUESSNER, B.—The Physiological and Therapeutic Effects of Thymol. (Abstract in *Med. Times and Gas.*, Dec. 21, 1878.)
10. POUCHET, M.—Origin of Red Blood-corpuscles. (Soc. de Biol., Séance March 15; reported in *Gas. des Hôpitaux*, March 18, 1879.)
11. RABEAUTEAU, M.—Artificial Organic Bases analogous in their Physiological Action with Urari. (Soc. de Biol., Séance 25 Jan.; abstract in *Le Praticien*, Feb. 3, 1879.)
12. RICHTER and BRÉGUET.—On the Perception of Light. (*Acad. des Sciences*, Séance Feb. 3; reported in *Arch. Gen. de Méd.*, April 1879.)
13. SEEGEN, J.—The Influence of Ptyalin and Pancreatin upon Glycogen. (*Pflüger's Archiv. f. die Gesam. Physiol.*, Bd. xix, Heft ii and iii, 1879.)
14. SERVICE, JOHN.—Some Points connected with the Physiological Action of Pilocarpin. (*Four. of Anat. and Physiol. norm. and path.*, April 1879.)
15. SMYLY.—The Functions of the Organs of the Fœtus in Utero. (*The Dublin Journ. of Med. Sci.*, Sept. 1878.)
16. SWIFT, J. W.—The Determination of the Sex in Utero. (*The New York Med. Record*, Nov. 2, 1878.)
17. VINTSCHGAU, M.—The Physiology of Taste. (*Pflüger's Archiv. für die Gesamte Physiol.*, Vol. xix, Heft 5, 1879.)
18. VORT, C.—The Action of the surrounding Air upon the Metabolism of Warm-blooded Animals. (*Zeitsch. f. Biologie*, xiv, p. 59; abstract in *Centralblatt für die Med. Wiss.*, January 4, 1879.)
19. YUNG, E.—The Influence of Colour on Development. (*Acad. des Sci.*, December 16, 1878; reported in the *Arch. Gen. de Méd.*, February 19, 1879.)

1. *The Cause of the Heart Rhythm.*—Professor Basch has turned his attention chiefly to the question whether the ganglia of the heart or the apex should be considered as the starting point in stimulation. If a heart is stimulated with a sufficiently strong current at intervals of about a second, it will contract on the application of each stimulus; if the stimulus be continued for some time, the heart no longer replies to such stimulus—it pauses. The pauses, however, are not to be regarded as symptoms of fatigue, since the individual beats are still moderately strong. These phenomena cannot be explained on the assumption that the heart possesses motor and inhibitory centres, which are both stimulated. When the apex of the heart is alone stimulated, it acts in the same way as does the heart which contains ganglia. The apex is, however, more insensible, as is clearly shown by the fact that the stimulus must be much stronger to obtain any movement. The apex of the heart has not the same contractility as the heart with the attached auricle. The apex of the heart, too, is unable to follow so rapidly consecutive stimuli, and it is therefore necessary to allow a longer time to intervene, if it is required, to obtain a contraction for each stimulus. The sensibility of the apex of the heart is also less, for it loses its irritability on section. The pause of the heart in Stannius' experiment is a consequence of this diminished irritability. On the summation theory, not only the rhythm, but each change of the rhythm, can be predicted; and on the same theory, processes can be defined which will increase or diminish the irritability.

2. *Protoxide of Nitrogen as an Anæsthetic.*—Dr. Pean has excised a cancer of the breast, the patient being anæsthetised with protoxide of nitrogen. The mixture breathed was 85 per cent. of the protoxide, and 15 per cent. of oxygen. The tension varied between 17 and 20 mm. of mercury. Anæsthesia was produced in about a minute, and was continued for fourteen and a half minutes. The respiration was regular, and not hurried. The pulse, originally 104, fell to 70 during the anæsthesia, and rose to 80 on recovery. About a minute after the removal of the gas the patient recovered. Nearly 150 litres of the mixture were inhaled. During the operation the patient remained absolutely quiet and calm, with complete relaxation of the muscles; on recovery she remembered nothing, and only declared that she was hungry.

3. *On Dreams.*—Professor Binz promulgates a new theory of dreaming, based upon pathological and toxicological investigations. He believes that dreaming is due to the illumination of disconnected memories, which occupy different positions in the slumbering or slowly awakening cerebral cortex.

Dreams may be caused voluntarily, their *timbre* even may be predicted, by means of a poison, which interrupts the regular action of the whole brain by the uncontrolled excitation of a single group of cells. Somnambulism is a kind of dream distinguished by the strong reflex action of the organs of locomotion. The author further treats of mystical dreams, and those caused by over excitement, by references to some well observed cases which are already on record, and by the recital of a well-marked instance of somnambulism which occurred to himself, and which he afterwards carefully investigated.

4. *Cerebral Lesions.*—M. Bochefontaine, experimenting with cats, dogs, and guinea pigs, finds that symptoms of cerebral commotion may be caused without the existence of any lesion of the brain substance visible to the naked eye. That very violent blows on the head, whether repeated or not, and of such a kind as to produce fracture of the skull, may be accompanied by a softening at various points of the convexity of the nervous substance of the brain, such as the frontal or parieto-sphenoidal lobes or the cerebellum. It may also cause the formation of blood-clots in the ventricular cavities, and beneath the arachnoid. In every experiment the surfaces of the ventricles remained uninjured, and in no case were lesions of the fourth ventricle noticed. The latter observation, therefore, although it is insufficient to prove that violent shocks are invariably unattended with injuries to the walls of the ventricles, is still enough to ensure the rejection of a theory which is founded upon the existence of constant lesions of the walls of the ventricles, and the consequent increase of the pressure of the cerebro-spinal fluid. The pressure of this fluid, under the influence of very violent blows on the head, is not more than 5 mm. of mercury; and M. Bochefontaine has shown experimentally upon a recently killed dog that 30 cc. of mercury were necessary, not to soften the whole wall of the medulla by compression, but only the most superficial portion of the floor of the fourth ventricle. It is clear, therefore, that the pressure of 5 mm. cannot be regarded as the active cause of the shock.

5. *The Effects of Chloroform, Ethiden, and Ether on the Blood-Pressure.*—The conclusions which Drs. Coats, Ramsay, and M'Kendrick have arrived at, in regard to the effects of chloroform, ethiden, and ether upon the blood-pressure, are the following:—1. Both chloroform and ethiden, administered to animals, have a decided effect in reducing the blood-pressure, while ether has no appreciable effect of this kind. 2. Chloroform reduces the pressure much more rapidly, and to a greater extent than ethiden. 3. Chloroform has sometimes an unexpected and apparently a capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, whilst the pulsations are greatly retarded, or even stopped. The occurrence of these sudden and unlooked for effects on the heart's action seem to be a source of serious danger to life, all the more because in two cases they occurred a minute after chloroform had ceased to be administered, and after the recovery of the blood-pressure. 4. Ethiden reduces the blood-pressure by regular gradations, and not, so far as observed, by these sudden and unexpected depressions. 5. Chloroform may cause death in dogs, either by primarily paralysing the heart or the respiration. The variations in this respect seem to depend, to some extent, on individual peculiarities of the animals; in some the cardiac centres are more readily affected, in others the

respiratory. But peculiarities in the condition of the same animal very probably have some effect in determining the vulnerability of these two centres respectively, and they may both fail simultaneously. 6. In most cases respiration stops before the heart's action; but there was one instance in which respiration continued while the heart had stopped, and only failed a considerable number of seconds after the heart had resumed. 7. The use of artificial respiration was very effective in restoring animals in danger of dying from the influence of chloroform. In one instance its prolonged use produced recovery, even when the heart had ceased beating for a considerable time. 8. Under the use of ethiden, there was on no single occasion an absolute cessation, either of the heart's action or of respiration, although they were sometimes very much reduced. It can, therefore, be said that though not free from danger on the side of the heart and respiration, this agent is in a very high degree safer than chloroform. 9. These results confirm and amplify those stated in a previous report, to the effect that ethiden does not compromise the heart as does chloroform. By the method of experimentation then employed, the effect on the blood-pressure could not be determined, and altogether the results here obtained are more exact and unequivocal.

6. *The Tendency to move to the Right or Left.*—M. Delaunay has made a communication upon the habitual tendency of individuals to move to the right or to the left. This tendency is shown when the individual is placed in a large chamber, when he visits an exhibition, walks in a court, enters a door, ascends a double-staircase, or meets a person upon the pavement or in a passage. *Race:* M. Delaunay has been led to believe that the lower races, who usually write from right to left, generally move to the left rather than to the right; whilst the more highly civilised nations, on the contrary, move habitually to the right. Guides have noticed that persons visiting the various exhibitions always commence at the right, even when the entrance is on the left. In skating, as in walking, the walk is kept to the right-hand side. At the Bibliothèque Nationale there are always a greater number of people on the right than on the left-side of the central aisle. On the pavements, in the streets of Paris, it is the custom for each person to keep to his right. This habit is evidently based upon the natural tendency of the majority. The same fact is noticed in double-staircases, with a central balustrade. M. Delaunay believes that this tendency to move to the right or to the left has played a great part in the migrations of people, and in the development of towns. Experiment, in this case, confirms observation, for the deviation is always to the right when an object is approached with closed eyes. *Sex:* Women have less tendency to move to the right than men, and the same remark is true of children. Children, in learning to walk, commence by moving to the left, till the age of three or four, when they begin to move to the right. Adults usually move to the right; old persons, again, exhibit a tendency to move to the left. Idiots and imbeciles, examples being taken from the same asylum, move equally to the right or left. On the other hand, incurable maniacs and general paralytics walk with the wall to their left. In all parliaments, scientific meetings, and literary assemblies, the left represents, according to M. Delaunay, the advancing spirits, and the right the retrograde element. The author attempts to explain these facts, upon the assumption that individuals

high up in the scale of civilisation have the left frontal lobe more largely developed than the right, whilst in less highly cultivated persons the right frontal lobe is larger than the left.

7. *Formation of Urea in Dyspnœa.*—Professor Eichhorst has made a fresh series of experiments, before and after the removal of the difficulty in breathing, upon the amount of urea eliminated in children upon whom tracheotomy had been performed. In these experiments, he tested the blood obtained from the wound in the trachea for urea by Meissner's method. In blood obtained in this way, when the urine and the excretion of urea had notably decreased, or was altogether absent, urea was imperceptible. For this reason it is not correct to say that an increased formation of urea is a result of the deficient ingestion of oxygen.

8. *The Trophic Nerves of the Heart.*—Professor Eichhorst has cut the vagus on each side in pigeons and in a buzzard. He finds that in every case the injury is followed by certain death. In no case, however, did the lungs of the birds show any signs of disease, such as are analogous to the vagus pneumonia of dogs and rabbits. In place of this he found well-marked fatty degeneration of the muscles of the heart, which had frequently occurred to a considerable extent. Three reasons may, in his opinion, exist for this fatty degeneration, for it may be due to a slowing of the respiration, and the consequent lessened absorption of oxygen; to the more rapid and irregular movements of the heart, so that the degeneration may be the anatomical expression of the over-fatigue of the heart muscles: or, lastly, it may be due to a direct influence exercised by the vagi upon the nutrition of the heart. In this latter case there must be distinct trophic nerves, after section of which the tissue-changes are impeded to such an extent that fatty degeneration takes place. The author puts aside the first theory, in relation to diminished absorption of oxygen, on the results obtained by Voit and Rauber, since these observers determined that after section of both vagi, the ingestion of oxygen and excretion of carbonic acid remained unchanged. In opposition to the second theory he advances the fact that atropin accelerates the action of the heart, though it does not cause any formation of fat in that organ. There remains, therefore, only the theory of special trophic nerves existing in the vagus for the supply of the heart. He does not, however, state that this is the only nerve by which trophic influences are brought to bear upon the heart. The experiments with dogs and rabbits show that in them death occurs from bronchopneumonia, though Eichhorst proves that the degeneration takes place also in them; but when he had previously performed tracheotomy, no such formation of fat occurred in the muscular substance of the heart. The animals on whom this operation had been performed, died, however, from paralysis of the heart, without showing any symptoms of vagus pneumonia.

9. *The Physiological and Therapeutic Effects of Thymol.*—Dr. B. Kuessner, of Halle, has found that the direct injection of thymol in emulsion (1:100—200) into the veins of warm-blooded animals (dogs and rabbits) kills them by paralysis of the respiratory centre when given in quantities not greater than 0.10 gram per kilogram of body weight. The dose given by the stomach may be enormously greater, and yet, owing to inadequate absorption, produce no effect except local irritation. In the poisoned animals, even at a late period, artificial respiration saved their

lives. The blood of those which died was dark and fluid, but the corpuscles were intact, and the number of red cells undiminished. Kuessner invariably found albumen and hyaline casts in the urine, but no blood-colouring matter. Thymol produces deep coma previous to death. In the preliminary drowsy stage the pulse and blood-pressure are uninfluenced, but with the advent of coma the pressure falls steadily, and the pulse becomes at first quickened and then retarded. In the stage of coma the largest doses of strychnia fail to excite convulsions. Repeated injections of small doses of thymol reduce the temperature of healthy animals, the depression being to a certain extent inversely as their age. No after ill-effects result. Rabbits which had from five to twenty cubic centimetres of a 1 per cent. thymol emulsion injected into the stomach once or twice a day, suffered no alteration of temperature, pulse, or respirations; they only became thinner, in spite of abundant food. *Post mortem*, general anæmia of all organs was discovered, but the blood was apparently normal, and no signs of fatty degeneration were detected either in these or any of the animals experimented on. Kuessner himself took 1.0 gram *per diem* in pills for four days without observing any physiological effects except a feeling of burning or tenderness at the epigastrium, which continued for a fortnight after leaving off the drug. The sugar in the urine of a patient with diabetes was reduced by from one to two grams thymol *per diem*; but Fürbringer (*Deutsches Archiv. für Klin. Med.*, xxi), on the other hand, found in a patient in Friedrich's Clinic that one gram daily increased the sugar. Kuessner thinks thymol (three to five minims of a 1 per cent. solution three times a day) of value in vesical catarrh and in infantile diarrhœa, and inhalations (one part to 1000) diminished the fever and expectoration of phthisical patients.

10. *Origin of Red Blood-Corpuscles.*—M. Pouchet continues his investigations on the hæmatopoietic organs. After considering from this standpoint the spleen and the lymphatic glands, he has turned his attention to the medulla of bone, and has arrived at the conclusion that this tissue has no hæmatopoietic functions. His experiments were conducted upon dogs, rats, and fowls. The method of procedure consisted in bleeding the animals periodically, and removing the tibiæ between successive bleedings for the purpose of examining the medulla. These investigations and experiments, repeated a great number of times and performed with the utmost care, have led M. Pouchet to the conclusion that the marrow of bones has no blood-making functions. M. Pouchet has already published a large number of papers upon the origin of blood-corpuscles. It had been allowed for a long time that hæmoglobin was a substance peculiar to the red blood-corpuscles. In 1877, M. Pouchet demonstrated that the white blood-corpuscles possessed the power of assimilating hæmoglobin. M. Sévin had previously shown, that in the horse a degeneration of hæmoglobin was constantly taking place outside the vascular system. MM. Hayem and Pouchet have both speculated upon the possible origin of red blood-corpuscles, and have both been led to adopt the theory that the red corpuscles are either developed spontaneously, or are produced as a kind of product from the white corpuscles.

11. *Artificial Bases Analogous to Urari.*—M. Rabeateau communicates the results of some of his experiments upon the salts of artificial organic bases (chlorides and iodides of ethyl, methyl,

propyl, etc., and ammonium). When some of the atoms of hydrogen in the formula NH_4 are replaced by bases, the salts are simple ammonia compounds, and are almost harmless. If all the hydrogen atoms, however, be replaced by bases, such, for example, as CH_3 , bodies are obtained whose action physiologically resembles that of urari. It is, therefore, possible, that in these compound ammonias, equivalents to the natural alkaloids may be found.

12. *Perception of Light*.—MM. Ch. Richet and Ant. Bréguet discuss the influence of duration and intensity upon the perception of light. They find that the eye may be prevented from observing a feeble light by diminishing its duration. To render such a light again visible, it is necessary to increase either its intensity or its duration. The same result may be obtained by the rapid repetition of this feeble light of short duration; the repetition, however, must take place at least fifty times in a second. A coloured light is subject to the same laws. These phenomena are comparable, both as regards the muscular movement and sensory perception, with those of latent addition, which have been already demonstrated by one of the authors. It is also shown by this means that there is, in retinal vision, a period of inertia, which may, perhaps, be neglected for intense lights, but of which account must be taken for feeble rays, since such a ray takes an appreciable time to overcome the inertia of the retina.

13. *The Influence of Ptyalin and Pancreatin upon Glycogen*.—The conclusions arrived at are: 1. That glycogen is not wholly converted into sugar under the action of ptyalin and pancreatin, from 60 to 75 per cent. of glycogen being converted into sugar. 2. The sugar formed is not grape sugar, for it possesses a remarkably lessened reducing power, and a distinctly higher and specific power of rotation for light. The capacity for reduction is 66 per cent. of that of grape sugar; its specific rotary power is diminished from 120 to 130°. 3. Diastase acts generally like ptyalin and extract of pancreas. 4. Starch is not entirely converted into sugar by these ferments, and the sugar produced has occasionally a diminished reducing but an increased rotating power. 5. The sugars formed by the action of ferments upon starch and glycogen are called ferment sugars. 6. A complete conversion of glycogen into sugar takes place when the solution of glycogen is digested at 100° in a water bath for 36 to 48 hours in a sealed tube. 7. The sugar formed in the liver is grape sugar. 8. Dextrin is the product arising from the change induced by ferments. This occurs in two forms, as achroodextrin, at the instant when the opalescence of the glycogen solution disappears. This achroodextrin is precipitated by dilute alcohol, and is converted into sugar under the further action of the ferment. If the action of the ferment is allowed to continue, there remains a second form of dextrin, which is only very slightly soluble in a 90 per cent. alcohol, and cannot be converted into sugar by the further action of ferment. This dextrin, in relation to the opposition which it offers to ferments and acids, is called dystropodextrin.

14. *Pilocarpin*.—Dr. Service demonstrates by the graphic method the effect of pilocarpin upon the circulatory organs. Pilocarpin is the only alkaloid of *jaborandi* (*Pilocarpus pennatifolius*). *Jaborandi* was first introduced to the profession in the year 1873-1874 by Dr. S. Coutinho of Pernambuco, as a powerful diaphoretic and sialogogue; and its alkaloid was isolated by A. W. Gerard of London, in

the beginning of 1875. That *jaborandi* possesses sudorific and sialogogue properties in a high degree, there can be no doubt; but its alkaloid, pilocarpin, exhibits such advantages over the mother plant, that it now only is used. It is an interesting fact, that this drug *never* fails to produce profuse sweating and salivation, when given subcutaneously and in doses large enough, namely, from a sixth to half a grain of the nitrate. Given to an adult, Dr. Service has never seen a third of a grain fail—the diaphoresis persisting from two or three hours. Pilocarpin seems to act by paralysing the vaso-motor nerves; for almost instantaneously on its injection under the skin, the face flushes, the whole skin becomes warmer, and the heart's contractions are increased in number. If the fingers be placed upon the pulse, besides noticing that the rate is increased, it will also be observed that it becomes larger, more easily compressible, and more dicrotic. Immediately after the injection, the heart's action is found to be increased, whilst the tension in the arteries is diminished. Atropia entirely antagonises the effects of pilocarpin. Thus the sweating, salivation, and other effects of the pilocarpin, which, under ordinary circumstances, would have lasted for two or three hours, were entirely checked while at their height, five minutes after the administration of atropin. The physiological effects, however, return on the re-injection of pilocarpin.

15. *The Functions of the Organs of the Fœtus in Utero*.—Dr. Smyly gives a short account of the results which have lately been obtained by Dr. Gusserow of Strasburg, in relation to the functions of the fœtus *in utero*. He finds that foreign substances, such as iodide of potassium, ferrocyanide of potassium, and tincture of iodine, pass from the mother to the ovum, when the administration of the drug has been continued for at least fourteen days. In these cases the substance chiefly experimented with was iodide of potassium, the iodine of which was detected in the urine of the fœtus and in the liquor amnii. Dr. Gusserow has been led to conclude from these experiments that the fœtus secretes urine, which is voided after the second month into the liquor amnii. In thirteen cases out of sixteen, the amniotic fluid was found to contain urea in greater or less quantity. The urinary matter contained in the liquor amnii does not remain there long, but as in cases of retention of urine in the fetal bladder, it probably decomposes, and passes into the mother's blood. It is moreover probable that the urine does not flow away continuously, but that it collects in the bladder until a sufficient irritation is conveyed to the spinal cord to cause a reflex action of that viscus, for otherwise the amount of urea found in the liquor amnii would be constant, and not, as is the case, variable in quantity. Dr. Gusserow adheres therefore to the view that the amniotic fluid is entirely a foetal production, derived, at least during the second half of pregnancy from the foetal kidneys, and is not merely a transudation from the foetal or maternal vessels, nor is it a result of mechanical œdema, as is shown by its poverty in albumin and white corpuscles, together with its incoagulability, as well as by its being entirely devoid of red corpuscles. By means of the administration of benzoic acid to the pregnant mother, Dr. Gusserow has determined that benzoic acid, like certain other substances, passes in a somewhat short space of time from the maternal to the foetal organism, and further that it is then converted into hippuric acid; and consequently the foetal kidneys must have the same function as after birth,

and also that the foetus micturates into the bag of waters. Finally, if a direct exchange took place between the maternal or even foetal blood and the liquor amnii, benzoic acid would invariably be found in it, as this alone circulates in both kinds of blood. No benzoic acid however was ever found, but generally hippuric. Dr. Gusserow has also confirmed the observations of Mr. Savory in regard to the effect of poisons injected into the foetus on the mother.

16. *The Determination of the Sex in Utero.*—In a recent number of the *Boston Medical and Surgical Journal* appears an article by Dr. J. W. Swift, bearing upon the question of the determination of sex before birth. He states that his attention was first directed to the inquiry by Dr. Heitzmann, who promulgated the following ingenious theory: The ovum represents the female element, the spermatozoa the male. If the ovum becomes impregnated by a few spermatozoa, the female element will be in excess, and the result a female. If, on the other hand, a good many spermatozoa impregnate the ovum, the male element will preponderate, and a male will be the result. Now, it is argued, if the ovum is high up—that is in the ovary, or at the fimbriated extremity of the Fallopian tube—probably only a few spermatozoa will come in contact with it; but if the ovum is low down, then the spermatozoa will be in excess. If menstruation and ovulation are dependent one on the other, then the situation of the ovum may be determined by the menstrual period. During the interval between the periods the ovum is in the ovary, just before the flow begins the ovum may be on the surface of the ovary. As menstruation goes on, the ovum descends, and the flow may entirely cease before the ovum is discharged. Then it is low down in the Fallopian tube, or even in the uterus itself. If coition takes place in the interval between the periods, or just before menstruation begins, the ovum being high up, only a few spermatozoa reach it; but if copulation is just after menstruation, then the ovum is within reach of many spermatozoa. Dr. Swift seems to have been much impressed with these assertions of Dr. Heitzmann, and tested the rule in twenty cases which came under his notice, with surprisingly satisfactory results. In the matter of reproduction, however, the theory to be well founded must have an application equal in extent to the whole domain of comparative anatomy. [Dr. Heitzmann's theory, as promulgated by Dr. Swift, appears to be in opposition to the recent discoveries of Van Beneden and others, who state that only a single spermatozoa takes part in the fertilisation of an ovum.]

17. *The Physiology of Taste.*—M. Von Vintschgau, in summing up the results obtained by himself and other physiologists, has come to the following conclusions in regard to the sensation of taste by the tip of the tongue. He finds that there are some persons who can distinguish all the chief sensations of taste solely by the tip of the tongue. There are other persons who can perceive with certainty by means of the same part the sensations of sweetness, saltiness, and acidity, but with less clearness the sensation of bitterness. There are again other persons who can only distinguish individual tastes with the greatest difficulty by the tip of the tongue, and to this category M. Von Vintschgau himself belongs. These individuals can distinguish an acid from a sweet with comparative ease, and a salt with more difficulty, but they either entirely fail to perceive

a bitter, or if they do, it is only with the utmost attention. Lastly, there is still another class of persons who are wholly incapable of perceiving any taste by the tip of the tongue.

18. *The Action of the Surrounding Air upon the Metabolism of Warm-blooded Animals.*—Experiments upon men in cold and warm atmospheres, with the exclusion of voluntary movements, were first made by Professor Voit. The results obtained differed somewhat from the similar experiments made upon cats. The influence of the respiratory movements upon the excretion of carbonic acid was also investigated, and it was found that in spite of an increased frequency of respiration, there is a decrease in the amount of carbon dioxide eliminated. When a larger quantity of carbonic acid is given off, it is due to the increased action of the muscles of respiration as in forced and deep respiration, rather than to a mere increase in its rapidity. Cold causes an increase in the formation of carbonic acid, which is not however due exclusively to the increased respiratory movements or to the sinking of the temperature of the animal experimented upon. Experiments were also made upon the marmot during hibernation, and upon sleeping men, in regard to the storing up of oxygen. The reasons for the difference in the proportion of the oxygen absorbed to that excreted in the carbonic acid are also discussed. Professor Voit then adduces further reasons for the increase in the amount of carbonic acid formed when the temperature is lowered, and attempts to show that the elimination of carbonic acid and storing up of oxygen are not to be looked upon as exact measurements of the metabolism of the body. The metabolism of fat is said to be increased by reflex action, and lastly the consumption of food in warm and cold climates is alluded to. Professor Voit denies that voluntary movements of respiration cause increased changes in the body by the introduction of larger quantities of oxygen, or that oxygen is the proximate cause of tissue change. In this respect, therefore, he is in accordance with the views of Pflüger.

19. *The Influence of Colour on Development.*—In an interesting note upon the influence of the various colours of the spectrum upon the development of animals, M. Yung makes the following observations: The various colours of the spectrum act in a different manner upon the development of eggs. Violet light appears to be most active, then blue, yellow and white in the order given. Red and yellow appear to be injurious. Absence of light does not hinder development, though it retards it. The colours of the spectrum may be arranged according to their decreasing effects upon the development of eggs in the following order. Violet, blue, yellow, white, darkness, red, green. Tadpoles of the same size and under identical physical conditions, when deprived of food, are found to die more rapidly of inanition in violet or blue than in other lights. The mortality appears to be higher in coloured than in white light, but this fact cannot yet be stated with any degree of certainty. The experiments were made with the eggs of *rana temporaria* and *esculentia*, with the ova of trout, and with the spawn of the pond snail.

D'ARCY POWER.

SYPHILOGRAPHY.

RECENT PAPERS.

1. FOURNIER.—On Syphilis in Relation to Marriage. (*Gaz. des Hôp.*, Jan. 7 and 14, 1879)
2. MOREL.—Cardiac Complications in Gonorrhœa. (*Thèse de Paris*, 1878; and *Rev. des Sciences Méd.*)
3. SEGUIN.—On Syphilitic Brain-Lesions. (*New York Med. Journal*, Sept. 1878.)
4. SPILLMANN.—Chancres of the Tonsils and the Buccal Cavity. (*Rev. Méd. de l'Est.*)
5. VIERLING.—Syphilis of the Trachea and Bronchial Tubes. (*Deutsch Arch. f. Klin. Med.*, p. 326, 1878.)

1. *Syphilis in Relation to Marriage.*—In two papers published in the *Gazette des Hôpitaux*, January 7th and 14th, 1878, M. Alfred Fournier discusses the important question of syphilis and marriage, and gives the following as the conditions under which a man who has had syphilis may be allowed to marry.

(1.) *Absence of Actual Symptoms of Syphilis.*—Of course the presence of the slightest syphilitic lesion ought to prevent marriage.

(2.) *Advanced Period of the Disease.*—The most dangerous persons are those who marry during the first two years. In such cases, the wife as a rule contracts syphilis, and the same holds good as regards the offspring. Marriage ought not to be thought of until a minimum period of three or four years has elapsed since contagion. The longer the interval the greater will be the chance of escape for both wife and children.

(3.) *A Certain Period of Immunity since the last Symptoms disappeared.*—It is impossible to fix this exactly; but, as a rule, the author would say about eighteen months to two years.

(4.) *A Non-Menacing Character of the Syphilitic Diathesis.*—If the disease have been mild, and easily amenable to treatment, and if the various lesions have been only slight and superficial, the conditions are excellent with regard to marriage.

The following cases are unfavourable for marriage. *a.* Those which, without being very severe, are nevertheless characterised by constant repetition of the same kind of lesions, especially in the mouth or on the penis, although these lesions may be quite superficial. *b.* Cases which are severe by reason of intensity of the morbid action, revealed by the multiplicity or gravity of the symptoms, or by lesions which tend early towards a tertiary form. Cases which resist treatment and where the viscera are affected. *c.* Cases in which some important organ has been involved, *e.g.*, the brain: cerebral syphilis is especially dangerous because of the nature of the organ implicated, and also because of the relapses which will be almost sure to occur.

It is most important that the medical adviser should study minutely the *quality* of the syphilis in each case that comes before him, and give his prognosis accordingly.

(5.) *Sufficiently Prolonged Specific Treatment.*—This is the condition *par excellence*. It is treatment that lessens the dangers of syphilis and constitutes the best safeguard against the risks the patient runs. We can now affirm that syphilis, treated energetically from its beginning, and during a sufficient length of time, has no tertiary stage; while syphilis, untreated or insufficiently treated, runs on to a tertiary stage, save in rare and inexplicable exceptions. Treatment diminishes and suppresses the causes of contagion,

as also the chances of hereditary transmission. Moreover, it has been proved that it may suffice for a child to be born healthy, that its syphilitic parents be under the provisional influence of mercurial treatment: *e.g.*, a syphilitic woman has seven pregnancies—seven syphilitic children, which all die—she is treated in her eighth pregnancy, and a healthy child is born; the same with the ninth; in her tenth pregnancy she is not treated, and has a syphilitic child, which dies in six months; she is again treated, and her eleventh child is healthy. Time on one hand, and treatment on the other, are the two great points to be considered. Specific treatment, by successive stages, during several years, gives the best chance of cure, and, consequently, the best prospect of marrying with safety.

2. *Cardiac Complications in Gonorrhœa.*—M. Morel states that he has collected all the cases hitherto published—13 in number—of heart-affection occurring during the course of gonorrhœa. Of the 13 cases, two are examples of pericarditis, and 11 of endocarditis. All the valves of the left side of the heart have been found affected, but the aortic most frequently so. The cardiac affection is usually mild in character, and only revealed by slight symptoms, which may be easily overlooked. Two cases, however (*Obs. de Lorain et de Desnos*, mitral endocarditis), ended fatally. The affection generally shows itself during the course of gonorrhœal rheumatism; but, in two cases (*Lacassagne, Marly*), it is expressly stated that there was no rheumatism. In five cases, the first manifestations of joint-affection appeared during an attack of gonorrhœa. In five cases, the antecedents of the patient are not mentioned; three only are noted as having suffered from rheumatism previous to any urethral discharge. Age does not appear to influence the development of cardiac complication; in these cases, the youngest patient was 23, and the oldest 50. All were males.

3. *Syphilitic Brain-Lesions.*—The following is an abstract of a clinical lecture by Dr. E. C. Seguin of New York. After exhibiting a patient with exaggerated reflex muscular action, and making some remarks on increased tendon-reflex, as recently described by Westphal and Erb, the author proceeds with his second case, as follows:

P. R., an Irishman, aged 37. Fifteen months ago he had a chancre, which did not appear until a month after exposure. Six months later, blotches, which did not itch, appeared on the skin. Excepting this eruption, he remained well until last September, when he noticed a weakness of the right leg. There was slowly developing paralysis in this extremity, which continued to increase until about November, since when there has not been much change in the condition of the limb. The paralysis also affected the right upper extremity, and, about a month ago, the grasp of the right hand indicated, in three trials, the numbers 35, 35, and 34, upon the scale of the dynamometer, against 40, 40, and 36, marked by the left hand. There has been right facial paralysis and some impairment of memory. He has never had any head injury, nor does he suffer from cephalalgia. There is nothing wrong about the eyes, so far as can be detected by the ophthalmoscope, and the urine has been examined with a negative result. Speech is normal. One week ago a new and important symptom showed itself, and that is weakness of the other lower extremity. There has now also become developed,

for the first time, increased reflex. In this instance, it affects not only the muscles, but the bladder and other organs in addition; in other words, it is both tendinous and visceral.

In the above case Dr. Seguin diagnosed syphilitic arteritis, and consequent localised cerebral softening, having excluded tumour of the brain on account of the absence of three prominent characteristics of that condition, viz.: choked disk, convulsions, localised pain in the head.

The third case is that of a widow, aged 50. The following is her history: One morning in November 1876, she found to her astonishment that she was paralysed and dumb in the left side. Her speech was considerably affected. Afterwards the paralysis very decidedly improved, but there was no change in her power of articulation. At the same time she began to suffer from severe pain in the head and noises in the right ear. Her eyesight became impaired about the beginning of February of this year. Dr. Webster states that there is no diplopia nor hemiopia, but that there is well-marked neuro-retinitis with hæmorrhages in the retina, and, in addition, incipient cataract in one eye. About ten years ago, just before her husband's death, the woman had a venereal wart, followed by sore throat and non-itching roseola. Within the last two or three months she has had several attacks of dizziness, accompanied by complete loss of speech. These attacks lasted but a few moments, she says, and thinks she did not lose consciousness in them.

Present condition: she still suffers from a good deal of pain in the head, chiefly on the right side, and has impaired vision with choked disk. The weakness of the left side of the body continues, and she has attacks of temporary loss of speech. The gait is peculiar. There is no facial paralysis. The dynamometer indicates some loss of strength in the left hand.

The cerebral lesion in this case is probably situated somewhere in the middle portion of the right hemisphere. As regards its nature, there can be little doubt about its being a tumour. In favour of its being such are the localised pain in the head, the choked disk, and the attacks of loss of speech, which are probably epileptiform seizures. As to the essential nature of the tumour, with the history that the patient presents, the probabilities are altogether in favour of its syphilitic origin.

The prognosis in the two cases is much the same, but probably somewhat better in that of the patient with the tumour than in the one with arteritis. As regards the case of tumour, it is necessary to make the prognosis concerning the eyesight separate from that of the general affection, for there is great reason to fear irreparable atrophy of the optic nerve. It is possible that the tumour may not prove fatal, though in a considerable number of cases such is the result.

ARTHUR COOPER.

4. *Chancres of the Tonsils and the Buccal Cavity.*—M. Spillmann has published in the *Revue Médicale de l'Est*, two cases of chancre which are very remarkable, both for the peculiar circumstances attending the infection, and for the difficulty of making a diagnosis.

The first was that of a lady, aged 59, whose position in life was such as to exclude all suspicion of syphilitic infection. She consulted M. Spillmann for a slight sore throat which she had had for about a fortnight, the pain being more violent during the act of swallowing. There was also a considerable swelling

of the glands at the angle of the right maxilla. On examination of the throat, a wound of the size of a threepennypiece was seen on the surface of the right tonsil, slightly depressed, and of a greyish hue. The mucous membrane around it was oedematous, and the parotid glands enlarged and tender to pressure. No other lesion could be discovered either in the mouth or throat, nor was there any external redness of the skin. The patient herself did not complain of any particular feeling of ill health, and seemed to consider her disease as a very trifling matter. M. Spillmann, who was well acquainted with his patient's way of living, could not conceive the existence of syphilis; but, a few days later, the characteristic syphilitic rash broke out, so that there could be no doubt as to the nature of the affection. The only difficulty to solve was the etiology of the case, and, after a great deal of trouble, it was discovered that the patient had adopted a baby which she was bringing up by hand, and that, in order to see if the temperature of the milk in the feeding-bottle was right, she often used to try it by drinking from the rubber mouthpiece. The infant being examined, was found to be suffering from hereditary syphilis, with ulcerations of the mouth and the genital parts.

The second case is not less interesting respecting the way in which the infection had been communicated. An upholsterer's apprentice, aged 13, had had for some days previous to his consulting M. Spillmann, a small red patch of the size of a threepennypiece on the lower lip; this patch was indurated at the base, the glands were enlarged—in short, it was an undoubted chancre of the lip. It seemed impossible at first to discover the cause, when it was discovered that the boy used to work with a man who was suffering from syphilis, and he took his nails from the same bag as this man. Upholsterers, it seems, are in the habit of putting into their mouths handfuls of the small nails which they use for their work, putting back the surplus nails into the bag. The workman was examined and found to have syphilitic patches in the mouth, and there can, therefore, be no doubt that the boy was infected by putting into his mouth nails which were impregnated with the saliva of this man.

5. *Syphilis of the Trachea and Bronchial Tubes.*

—The author has collected 46 cases of syphilitic disease of the air-passages, from which he draws the following conclusions. When syphilis attacks the trachea, ulceration always occurs, and tends generally to cicatrization and consequent narrowing of the tube; but sometimes the ulcer extends so deeply as to perforate the tracheal wall and give rise to an abscess. In two cases of ulceration of the left bronchus, the left branch of the pulmonary artery was opened. In 30 cases, there was concomitant syphilitic affection of the pharynx; in 36, the trachea was attacked, with or without implication of the bronchi as well; five times the bronchi alone suffered. Bronchial syphilis is rare beyond the two bronchi. Age and sex have no particular influence on the development of the disease. Five or six cases were attributed to hereditary syphilis.

The principal symptoms are cough, purulent expectoration, progressive dyspnoea, and, where the pharynx is also affected, hoarseness, and subsequently, aphonia. The prognosis is most unfavourable. Tracheotomy has been performed in 14 cases of tracheal stenosis, but only twice successfully.

ARTHUR COOPER.

LARYNGOLOGY.

RECENT PAPERS.

1. BENSEN.—Treatment of Croupous Laryngitis with Lime-water. (*Berl. Klin. Woch.*, April 28, 1879.)
2. EYDAM.—Treatment of Diphtheria. (*Allg. Med. Centralzeit.*, No. 42, 1879.)
3. KLAMANN.—On the Stage of Incubation in Diphtheria. (*Ibid.*, No. 46, June 7, 1879.)
4. KÖFFLER.—On the Use of Tannic Acid in Diphtheria. (*Ibid.*, No. 45, 1879.)
5. KOLACZEK.—On Tracheotomy in Croup. (*Dent. Med. Woch.*, No. 12, 1879.)
6. LESSER.—Two Cases of Perforation of the Oesophagus (*Ibid.*, No. 13, 1879.)
7. MOSLER.—On the Use of Oleum Eucalypti in Diphtheria. (*Berl. Klin. Woch.*, May 26, 1879.)
8. OTT.—Contributions to the Etiology of the Paralysis of the Crico-ary. Post. Muscles. (*Prag. Med. Woch.*, No. 15, 1879.)

1. *Treatment of Croupous Laryngitis with Lime-Water.*—The author reports three cases of croupous laryngitis, which he treated with inhalations of lime-water, to which was added a small quantity of glycerine. In the first case, that of a child aged 6½ years, tracheotomy had to be performed; and the child died with all the symptoms of lobular pneumonia. In the two other cases the operation was avoided, as the threatening symptoms disappeared soon after the treatment had been commenced. The lime-water is given in a diluted solution, of the strength of 100:300-400; or, in more urgent cases, equal parts of lime-water and distilled water are given, and 30 parts of glycerine.

2. *Treatment of Diphtheria.*—The author's treatment of diphtheria consists in removing the putrid patches with an instrument constructed by him especially for the purpose, and named "Eydams Diphtherolytor". It consists of a sponge attached to a curved wire. Before introducing it into the larynx the sponge is dipped into a mixture of tannic acid and milk-sugar, the proportion of one to ten. The patient is kept in bed, and must abstain from food likely to promote the formation of fungi, such as milk-sugar. A similar method of treatment, which seems to answer equally well, will be found further on, in which the instrument used can be manufactured by the patient or any of his friends.

3. *The Incubation Stage of Diphtheria.*—The author has twice had the opportunity of studying on himself the duration of the incubation stage of diphtheria, and details his own experiences. The first time he caught the disease from a child ill with diphtheria, who had coughed in his face while he was examining the pharynx. This happened at 5 P.M. The author then went out for a walk. About 6 P.M. he experienced a peculiar feeling in his body, as if he were getting bigger; he also felt a slight chill. On reaching home, he felt seriously unwell, and had pains in the neck. He was not feverish; the pulse was slow; the fauces were not red; the tongue clean; he could swallow without trouble,—but had what he considered rheumatic pains in his neck and back. He slept well that night, and awoke the next morning feeling very ill, but there was nothing to be seen in his throat. On the following day, he discovered a diphtheritic membrane on his right tonsil; at the same time, the pains in his neck had increased. The treatment he followed consisted of applications of ice to the throat, powder-

ing the tonsil with salicylic acid, and gargling with a solution of the same. On the next day he felt better, and was soon quite well. The second time he caught the disease it was when sucking out a wound in tracheotomy. Two days after, he felt a sensation of pricking in the throat; and, on examining his fauces, found, to his great surprise, that the tonsils and the arches of the palate were covered with diphtheritic membranes.

4. *Treatment of Diphtheria with Tannic Acid.*—The author has obtained very good results, in numerous cases of diphtheria, with tannic acid. It is given by the mouth as long as the patient is able to swallow, mixed with acid fruit-juice. Externally, it is applied to the tonsils and fauces by dipping a small sponge, which is fastened to a stick, in a strong solution of tannic acid, and passing it across the diseased parts, so as to remove the membranes and ulcerated portions. This must be repeated every hour, and a new sponge taken every time. When the ulcerations begin to heal, it is necessary to rinse the mouth and throat frequently with a weaker solution of tannic acid. During the whole time the affection lasts, ice must be applied externally to the neck and throat.

5. *On Tracheotomy in Croup.*—Dr. Kolaczek strongly recommends tracheotomy in croup at the onset of asphyxia. He has repeatedly performed the operation during the last few years, with good results.

6. *Two Cases of Perforation of the Oesophagus.*—Dr. Lesser relates two cases of perforation of the oesophagus, which were treated in the Augusta Hospital in Berlin, and for which he is indebted to Professor Senator. The first case is that of a man who had for the last four months been suffering from an increasing difficulty in swallowing. He was at last obliged to subsist entirely on liquid food. When examined at the hospital, an obstruction was found in the lower portion of the oesophagus. The treatment consisted in gradually introducing thicker sounds into the oesophagus, till the obstruction had been apparently removed; the patient, on leaving the hospital, was able to take solid food without much difficulty. Three weeks later he came back, feeling much worse. He was unable to swallow liquids. The next day, on attempting to drink, he had an attack of coughing, and expectorated two clots of blackish blood; after which, he felt better, and able to swallow. During the following days, the stools were black. It was noticed that the patient, when lying on his right side, had a severe attack of coughing whenever he attempted to swallow, and complained of a sensation as if the liquid had penetrated into the right side of the thorax. He had no difficulty in swallowing when lying on his left side. The sputum contained, besides pus and a few red blood-corpuscles, a great quantity of ciliated cells. It did not smell offensively. The ciliated cells were expectorated until the death of the patient. At the *post mortem* examination, a large ulceration was found in the middle of the oesophagus, which occupied its whole circumference; its edges were thick and swollen. The portion of the oesophagus which was to the left of this ulceration adhered firmly to the right aorta, and on the right side to the right lung. In this place, there was an opening of the size of a sixpenny piece in the oesophagus, which communicated with a large gangrenous cavern in the right inferior lobe of the lung. The cavern contained some liquid of a greenish tint, which had no foetid smell. The swell-

ing in the œsophagus was examined microscopically, and turned out to be a cancrroid.—The second case presented very similar symptoms, except that the patient could not swallow liquids without having a severe attack of coughing, during which the fluid was expectorated. As he was in a state of extreme emaciation, it was impossible to examine him very thoroughly when admitted to the hospital. It was, however, supposed that there existed a communication between the œsophagus and the trachea, or a bronchus. He died suddenly, after a short stay in the hospital. At the *post mortem* examination a large aneurism of the arch of the aorta was revealed, which had a small opening to the right. The connective tissue between the aorta, spinal column, and œsophagus, was of blackish hue, as was also the periosteum of the corresponding vertebræ. The periosteum was detached from the bone in one spot, and the bone exposed. In the corresponding portion of the œsophagus there was an opening about two centimètres long, of irregular, oblong size, the upper edge of which was formed by a fold of normal mucous membrane, while the lower edge was also of a blackish hue. Underneath this opening was a small depression in the anterior wall of the œsophagus. The inferior rim of this depression was partly covered by a fold of mucous membrane, and in its centre was a round hole of about three millimètres in diameter, which led into the left bronchus, which was situated beneath it, and adhered firmly to the œsophagus. The stomach and œsophagus contained large blood-clots; the intestines were also filled, to a great extent, with clotted blood. The depression in the œsophagus, which corresponded to the spot where the latter adhered to the left bronchus, corresponds exactly to the "traction-diverticle", which has been described by Rokitansky and Zenker. What the immediate cause of the perforation was is not clear. Perhaps it was caused by suppuration, owing to some particles of food which had penetrated into the diverticulum, and produced inflammation. The aneurism was an independent affection, probably caused by a syphilitic infection of long standing. The pressure which it exercised on the mucous membrane of the œsophagus had evidently been the cause of the ulceration which finally perforated into the aneurism, and this led to the final bursting of the latter. We have, in this case, a primary perforation of the œsophagus, owing to the formation of a diverticulum, and a secondary perforation caused by the pressure of an aneurism.

7. Diphtheria treated with Inhalations of Oleum Eucalypti.—The author draws attention to the fact that the fatal accidents which are so liable to occur in diphtheria are frequently due to mismanagement. It is a great mistake to go on reducing the organism which has already lost much of its power of resistance by a strict diet, antiphlogistic treatment, and emetics. The latter are especially dangerous in increasing the tendency to failure of the heart's action, and thereby inducing death. The author has obtained very favourable results by submitting his patients to a stimulating and tonic treatment, and thus diminishing the liability to paralysis. Concerning the local treatment of the affection, Herr Mosler is a strong advocate of the views of Waldenburg and Oertel, who have lately pointed out that the use of caustics in the treatment of the local affection is apt to give rise to ulcerations in the throat, and that this danger could be avoided, and equally good results obtained, by inhaling disinfecting substances. The author has made a great number of experiments

concerning the efficacy of the different substances which are generally used for the purpose. He has found that the usual disinfectants, such as carbolic acid, salicylic acid, permanganate of potash, etc., are apt to cause symptoms of irritation in the bronchi. A very useful remedy in diminishing the tendency to repeated attacks of diphtheria is a strong solution of sea-salt, mixed with the water which is used for the purpose of inhaling. Herr Mosler has also obtained very good results by adding a dose of the oil made from the leaves of the eucalyptus tree to the water contained in the glass cup of the inhaler. He gives the history of a case which was treated in this way. The patient, a girl, aged 20, was suffering from a severe attack of diphtheria. Both tonsils, the uvula and the arches of the palate, were covered with thick whitish patches. There were also a few ulcerations of irregular form and ragged edges. Inhalations of twenty minutes' duration were ordered to be made every hour. Ten grammes of the oil of eucalyptus was mixed with the same amount of spirit of wine, and ten drops of this mixture added to the water. At the same time she took, every half-hour, five drops of a mixture of ten grammes of sesquichloride of iron and the same quantity of water in claret. This treatment was kept up for three days, during which the symptoms remained the same, and the patient had high fever. On the fourth day, she became worse; a teaspoonful of the mixture of oil of eucalyptus and spirit was then added to the water, and the inhalation kept up during the night. On the next day, the temperature began to sink, and the diphtheritic membranes had been partly expectorated. The patient then continued steadily to improve, and the number of inhalations was reduced to three or four daily. She left the hospital after a stay of three weeks.

8. The Etiology of Paralysis of the Crico-Arytenoid Posterior Muscles.—Ott contributes an interesting case of paralysis of the posterior crico-arytenoid muscles, which was due to pressure of the posterior crico-arytenoid nerves. A man, aged 57, had swallowed a large piece of meat, which had stuck in his throat for twenty-four hours, and resisted all his attempts to dislodge it. He had no pain, only slight dyspnoea, and was unable to swallow even a drop of water. The next day he consulted a physician, who pushed down the piece of meat with a sound. The patient felt better directly, could breathe more freely, and was able to swallow. This state of things, however, did not last long; he again began to suffer from difficulty in breathing and swallowing, and was obliged to take only liquid food. The voice had remained unaltered; but the patient was obliged to speak in short abrupt sentences, from want of air. When examined by the writer, it was found that the false vocal cords were slightly swelled, and red; there was a space of four millimètres between the arytenoid cartilages. The rima glottidis was partly covered by the vocal cords during inspiration and expiration; only an irregular triangular opening could be seen at its posterior end. The left vocal cord was wider than the right, and did not move at all, while the right moved sluggishly. During inspiration, the vocal cords were approximated. The arytenoid cartilages did not move either during respiration or phonation. The mucous membrane of the incisura inter-arytenoidea was swelled and pale, and the colour of the vocal cords a dingy yellow. The treatment consisted at first in faradisation of the larynx, but it afforded no relief to the patient. The dyspnoea increased, and became most severe

even when the patient was perfectly quiet. It was noticed that the rima glottidis had become much narrower, the left vocal cord having advanced to the middle of the fissure; the right arytenoid cartilage was partly hidden by the left. As the patient could only swallow with difficulty, it was necessary to feed him through the tube. He lost his appetite, and was very much wasted, and reduced in strength. At last the dyspnoea became so intense, that tracheotomy had to be performed, to save the man's life. Immediately after the operation, the patient was able to swallow without any trouble, and continued to do so henceforth. The larynx presented the same changes as before the operation. The patient had still great difficulty in breathing; the thorax was immovable during respiration, and the intercostal spaces were drawn in. The vocal cords were immovable, and during phonation a space of about three millimètres remained open in the back part of the fissure. For this reason, the patient had to be dismissed with the cannula in his throat, to prevent asphyxia. The author attributes the paralysis of the muscles which open the glottis to the pressure which the large piece of meat that was firmly wedged in the pharynx during twenty-four hours, must have exercised on the crico-arytenoid posterior muscles and their nerves. His assertion is based upon the well known fact that the conducting function of a nerve is entirely destroyed by pressure. Thus, in the present case, the nerve having lost all control over the muscle it governs, the latter became paralysed, and gave rise to the phenomena we have described. The difficulty in swallowing, which increased whenever the dyspnoea became worse, decreased when the sound was introduced, and finally disappeared after tracheotomy, can only be explained by assuming the existence of a spasmodic stricture of the œsophagus.

RECENT PAPERS.

- BOWLES, R. L.—Some Varieties of Sore-throat. (*Brit. Med. Jour.*, Lond., 1879, i, 503.)
- DUFFY, C.—Laryngo-tracheotomy. (*North Car. M. J.*, Wilmington, 1879, iii, 232-238.)
- FAUVEL, C.—Quelques points de l'embryogénie du larynx. Vascularisation terminale de la muqueuse laryngienne. Causes de l'absence de tuberculose ganglionnaire secondaire dans la phthisie laryngée. (*Gaz. d'Hôp.*, Par., 1879, lii, 107.)
- FOULIS, D.—Exstirpation of the Larynx. (*Lancet*, Lond., 1877, 1878, *passim*; 1879, i, 436.)
- GARRISON, J. E.—Clinical Notes on Aphonia of thirteen months' standing; Cure after fifty days of treatment. (Rep. by H. M. Cryer.) (*Phila. M. Times*, 1879, ix, 348-350.)
- GORECKI, X.—Lymphadénome fibreux de l'amygdale et de la partie postéro-latérale du pharynx; adénite cervicale; dacryocystite aiguë et kératite survenant sous l'influence d'un refroidissement et disparaissant en quelques jours; opération au moyen du thermo-cautère; guérison. (*Praticien*, Par., 1879, ii, 177-180.)
- GROSS, S. D.—The Surgery of the Larynx. (*Hosp. Gaz.*, N. Y., 1879, vi, 65.)
- MASSEI, F.—Sulla importanza e frequenza delle malattie laringee. (*Gior. Internaz. d. Sc. Med.*, Napoli, 1879, n. s., i, 162-168.)
- PEL, P. K.—Lipoma pharyngis et laryngis. (*Nederl. Tijdschr. v. Geneesk.*, Amst., 1879, xv, 89-92.)
- VERNEUIL.—Nature de l'amygdalite phlegmoneuse. (*Gaz. d'Hôp.*, Par., 1879, lii, 162.)

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. BULL, C. S.—Cases Illustrating Two Rare Diseases; Syphilitic Gummata of the Conjunctiva, and of the Eyelids. (Reprinted from the *Transactions of the American Ophthalmological Society*, 1879.)
2. CONNOR.—Enucleation of an Eye for Sympathetic Irritation; Bony Growth Inside the Enucleated Eye. (*Detroit Lancet*, January 1879.)
3. CINQUET.—a. Facial Erysipelas, Peri-Ophthalmous and Cerebral; b. Luxation of both Crystallines after Double Iridectomy; c. Iritis, Peripheric or Circumferential. (*Revue d'Ophthalmologie*, 3rd Series, No. 2, Feb. 1879.)
4. GALEZOWSKI.—Glycosuric Ocular Affections. (*Ibid.*)
5. GALEZOWSKI.—Of Pilocarpine and its Action in Ocular Therapeutics. (*Annali di Ophthalmologie Quagino*, Milano, 1878; Anno 7, Fasc 4.)
6. GUBLER.—On the Efficacy of Bromide of Potassium in Amblyopia and Alcoholic Amaurosis. (*Ibid.*, Milano 1878.)
7. VIEUSSE.—Luxation of Cataracted Crystallins. (*Revue d'Ophthalmologie*, Février 1879.)
8. YVERT.—Of Traumatism, Wounds, and Foreign Bodies in the Globe of the Eye. (*Ibid.*, No. 2.)
9. ARLT, V.—The Etiology of Keratitis. (*Wiener Mediz. Wochenschrift*, Feb. 15 and 22; March 1, 8, and 15, 1879.)

1. *Cases Illustrating Two Rare Diseases of the Eyelids; Syphilitic Gummata of the Conjunctiva.*—(i) *Infiltration of the tarsus* with a gummy deposit is a rare lesion in constitutional syphilis. The author had under his care a case which seems to have been a gummy infiltration of the entire substance of the lid. As the tumour disappeared, and the patient recovered, we have not the advantage of a microscopical examination of the lesion, but the infiltration, in all probability, started in the tarsus, and spread thence to the other tissues of the lid. The conjunctiva did not seem to be involved. (ii) *Amyloid Infiltration of the Lid and Orbit.* The infiltrated tissue removed from the orbit gave the usual reaction with iodine and sulphuric acid. The death of the child by coma, preceded by other brain-symptoms, points almost exclusively to an extension of the orbital process backward into the cavity of the skull, and in this way the purulent otitis media which was present may have arisen. (iii) *Syphilitic Gummata of the Conjunctiva.* The points of interest in the case were—*a.* The rarity of the pericorneal and conjunctival growth; *b.* Its coincidence with, and yet independent of, the gummy infiltration of the sclera; *c.* The presence of a cyst in the neck, with its disintegrated contents, unrecognised before death; *d.* The presence of a vesiculo-pustular eruption, becoming pemphigoid and subsequently hæmorrhagic; *e.* The presence of the hæmorrhagic diathesis, as shown in the various symptoms.

2. *Enucleation of an Eye for Sympathetic Irritation.*—The case is of interest.—(i) In showing how speedily symptoms of sympathetic irritation disappear when the diseased eye is removed. (ii) In illustrating the effects of wearing artificial eyes that are badly fitted, or from any cause produce considerable irritation. (iii) In demonstrating the presence of true bone-cells and canaliculi in an intra-ocular growth. (iv) In confirming the observations of Dr. H. Knapp, which showed that while calcareous formations might take place in any tissue of the

eye, bone-formations are only formed from the choroid.

c. 3. *Luxation of both Crystallines after Double Iridectomy.*—The author states this case is doubly instructive, because it shows—(i) The inutility of iridectomy in certain affections of the eyes. (ii) A possible danger every time it is practised. The operation has been performed very probably with a view of modifying either a supposed glaucoma, or an atrophy, more or less pronounced, of the optic nerve. There was no glaucoma, neither were there any signs of iritis.

4. *Glycosuric Ocular Affections.*—(i) Dr. Galezowski makes a communication upon a new affection of the eye, glycosuric keratitis. Three cases are reported. One of these presented some phenomena of a corroding ulcerous nature; the other two of diffuse keratitis. One of the most characteristic symptoms of these affections is complete anæsthesia of the cornea, in spite of photophobia more or less intense, and peri-orbital pains. Glycosuric keratitis presents itself under two forms—*a.* Corroding ulcer; *b.* Diffuse superficial keratitis. It yields readily under the influence of a severe anti-glycosuric regimen, with warm water douches to the eyelids, administered regularly two or three times a day, and with alternative instillation of atropine and eserine. A case is reported where this treatment gave good results. (ii) *Paralysis of the Third, Fourth, and Sixth Pair of a Glycosuric Nature.* The author's researches have shown that of 100 patients afflicted with paralysis of the sixth pair, glycosuria was traced as the cause in eight cases. It was not so with paralysis of the third pair. This is explained, in the author's opinion, by the original position of the two motor nerves. (iii) *Glycosuric Amblyopia without Lesion.* This malady very often resembles alcoholic amblyopia. It declares itself rapidly, and causes a certain degree of weakness of vision; it remains stationary for months and even years, but is susceptible of amelioration and complete cure under the influence of a simple dietetic regimen. The difference between glycosuria and alcoholic amblyopia may be known by the following signs. (i) The affection generally attacks but one eye, while in alcoholic amblyopia it is binocular. (ii) In glycosuric amblyopia, the patient often distinguishes, although by a great effort, the typographical character number 2. In alcoholism he cannot do so. (iii) Alcoholic amblyopia is often accompanied with a perversion of the chromatic faculty. This phenomenon never exists in glycosuric amblyopia; but there does exist often in both a partial colour blindness. (iv) When alcoholic amblyopia has lasted some months, the papilla is observed to become anæmic, resembling a progressive atrophy of this nerve. In a glycosuric amblyopia, the papilla remains always red, and even with an appearance of congestion. A case is given of amblyopia of a glycosuric nature, with an analysis of the urine, made by M. Mehu, of which the following is the result. Urine, 11.2 gr.; uric acid, 0.27 gr.; sugar, 48.7 gr.; mineral salts, 7.3 gr.; organic matter, 4.98 gr.; water, 927.55 gr.

5. *Pilocarpine and its Action in Ocular Therapeutics.*—The author's experiences, confirmed by others, have demonstrated that pilocarpine instilled into the eye has a myotic action stronger than eserine. He has remarked, also, that nitrate of pilocarpine acts less actively than chloral hydrate. He adds that pilocarpine can be very usefully em-

ployed when the prolonged use of eserine has provoked irritation in the conjunctiva. M. Rasupoldi has remarked that every time he has instilled a drop of pilocarpine into the eye of a cat, a very abundant salivation has been produced in about ten minutes. He has seen hypodermic injections of pilocarpine diminish very sensibly the urinary secretions in cases of insipid diabetes. In affections of the iris, or kerato-conjunctivity, he has obtained very good results by employing either an infusion of jaborandi, or hypodermic infusions of pilocarpine.

6. *Of the Efficacy of Bromide of Potassium in Amblyopia and Alcoholic Amaurosis.*—Professor Gubler has shown that bromide of potassium acts very efficaciously as an anodyne of the motor and sensory nerves, and upon the capillary vessels in diminishing turgescence. Lewicke has shown that bromide acts especially upon the cerebral vessels. It is in order to combat cerebral turgescence that he has employed this medicament in alcoholism, as Quaglino, Ruvioni and others have used it in the treatment of alcoholic amblyopia. Three to twelve grammes per day were given with very satisfactory results.

9. *Etiology of Keratitis.*—In an exhaustive paper, Professor V. Arlt tabulates in a form which may be useful to students and teachers of ophthalmology the causes of keratitis. It is as follows:

A. *Secondary Keratitis.*—*a.* Conjunctival: (1) catarrh; (2) blenorrhœa (acute, blen. neonatorum, blen. gonorrhœica, or chronic; ophthalmia Ægyptiaca, opht. granulosa, opht. trachomatosa); (3) diphtheritis conjunctivæ; (4) conjunctivitis scrofulosa; (5) acne (rosacea et cachecticorum); (6) herpes zoster ophthalmicus. *b.* (1) iritis, kyklitis, and chorioiditis; (2) iridokyklitis; (3) chorioiditis, with supuration; (4) glaucoma.

B. *Primary Keratitis.*—*a.* wounds: (i) mechanical; (1) foreign bodies which affect the cornea by the lid movements, (2) foreign bodies which fasten only superficially on the cornea, (3) foreign bodies which are forced deeper into the cornea, (4) superficial abrasions or cutting of the cornea, (5) deep and perforating wounds, (6) crushing or bruising wounds; (ii) chemical or heat-working wounds; (iii) inflammatory changes of cornea by strokes (Flügel-fälle); (iv) the keratitis of lagophthalmos, keratitis neuro-paralytica, exophthalmus of morbus Basedowii, posterior orbital tumours, defect of lids, lupus, syph. gangrene wounds, ectropion of one or both lids by caries, pustula maligna, deep scalding, application of caustic, etc.: *b.* cold—keratitis ex refrigerio, keratitis rheumatica: *c.* keratitis in consequence of variola: *d.* keratitis in consequence of syphilis: *e.* keratitis scrofulosa (generally named keratitis parenchymatosa): *f.* malarious cachexia: *g.* in consequence of defective nourishment from suckling: *h.* corneal ulceration through fatty degeneration of corneal cicatrices.

W. LAIDLAW PURVES.

TOXICOLOGY.

RECENT PAPERS.

1. BINZ.—On the Knowledge of the Constituents of Coffee. (*Arch. f. Exp. Pathol. und Pharmacologie.*)
2. BROWN.—Poisoning by Oil of Chenopodium. (*Maryland Med. Journal.*)
3. DUJARDIN-BEAUMETZ and AUDIGÉ.—On the Poison-

ous Effects of Alcohols. (*Recherches Exp. sur la Puissance Toxicque des Alcools*, Paris, 1879.)

4. HÖYGES.—On the Physiological Action of Capsicum. (*Arch. f. Exp. Pathol. und Pharmak.*, Band ix, Heft 1 and 2, p. 117, 1878.)

5. HUSEMANN.—Antagonistic and Antidotal Studies in Reference to Toxicology. (*Arch. f. Exp. Path. und Pharm.*, Band ix, Heft 5 and 6, p. 414, 1878.)

6. LYON.—Poisoning by *Cryptostegia Grandiflora*. (*Indian Med. Gaz.*, March 1879.)

7. PUTZEYS.—On the Physiological Action of the Hydride of Tanacetyle. (*Bulletin de l'Acad. de Belgique*.)

8. Poisoning by Gelsemium Sempervirens. (*North Carolina Med. Journ.*, Feb. 1879.)

9. SONNENBURG.—Poisoning by Carbolic Acid. (*Cbl. f. Chir.*, 1878, No. 45.)

10. THIERRY.—Three Cases of Poisoning with Veratrum Viride. (*Recueil de Méd. Vét.*, vie série, S.V., No. 20, Oct. 30, 1878, p. 1016.)

1. *The Constituents of Coffee*.—In an analysis of this article made in a contemporary journal, the author is represented to have said that, in moderate doses, caffeine and caffeine do not excite the brain, the heart, or the functions of respiration and calorification. This paper shows that his opinions are the reverse of those above stated.

2. *Poisoning by Oil of Chenopodium*.—A very interesting and novel case of poisoning by oil of chenopodium is reported by Professor Brown in the November number of the *Maryland Medical Journal*. One ounce and a half proved fatal five days after ingestion, with concomitant profound coma and very high axillary temperature. This article will bear careful perusal, since no works on materia medica or forensic medicine detail any fatal case of poisoning from this drug.

3. *The Poisonous Effects of Alcohols*.—The principal conclusions arrived at by the authors from their experimental researches may be thus stated:

(I.) *Toxic Effects*.—All alcohols, whether of the monatomic or polyatomic series, are of a poisonous nature. In the monatomic series, the intensity of the poisonous action depends, 1. On the constitution of the alcohols, and the sources from which they are derived. In alcohols derived from the same source, the poisonous effects are in proportion to their atomic formulæ—the higher the formula, the more intense the effects. 2. On their solubility. They are only poisonous when soluble, or when they meet in the body substances which favour their solution. 3. On the decompositions which they may undergo; thus, their poisonous action is increased by the presence of aldehydes and ethers. 4. On different modes of administration.

(II.) The phenomena of acute intoxication caused by alcohols may be divided into three periods or stages: 1, a period of depression; 2, a period of resolution (reaction?) and a period of collapse—these periods are modified by the nature of the alcohol employed, and by the dose; and, 3, by the power of resistance in the subjects.

In alcohols which are the product of fermentation, these three periods succeed each other in a regular manner; but, in proportion as they differ from ethylic alcohol, their characters are more strongly defined, their evolution (elimination?) is more rapid, and convulsive phenomena appear. In all these cases there is a great depression of temperature, sometimes amounting to one half of the normal standard.

Methylic alcohol compared with ethylic alcohol produces a greater degree of excitement; and re-

action and collapse attain more rapidly their maximum degree, but when the dose is not sufficient to prove fatal, the symptoms rapidly disappear.

With the enanthylic and caprylic alcohols, the periods of intoxication (poisoning) lose their regularity. Some hours after the administration of the poison to the animal, it appears restless; its temperature is lowered by several degrees, and it is only after a very long interval that we observe the stages of reaction and collapse. Convulsive symptoms are more marked in these than in the preceding alcohols. But it is especially with glycerine that convulsions are developed under the influence of the slightest contact. The temperature of the animal falls only shortly before its death.

(III.) *Toxic Lesions: Digestive Organs*.—These lesions are but little marked when the alcohol has been introduced hypodermically. If administered by the œsophagus, the mucous membrane of the intestines is softened, and the surface of the intestines is of a dark reddish colour. There are also effusions of blood in greater or less quantity. The blood itself undergoes a remarkable change; it is dark coloured, and coagula of variable size are found in the heart. There is congestion of the lungs as well as of the membranes of the brain. After the employment of glycerine, hæmorrhagic congestion of the kidneys has been found.

(IV.) *Hygienic Conclusions*.—In applying the preceding facts to the examination of commercial alcohol, the authors have found that the source of the brandy has an important influence on the toxic action of the alcohol. They have classed the varieties of brandy found in commerce in the following order: 1. Alcohol and brandy obtained from wine; 2. Brandy obtained from perry; 3. From cider and the husks of grapes; 4. Alcohol and brandy of beet-root; 5. Alcohol and brandy from brewers' grains; 6. Alcohol of beet-molasses; 7. Alcohol and potato brandy.

The chief danger arising from the use of brandies other than those produced from wine, arises from the presence of propylic, butylic, and amylic alcohols, and the best way of rendering them safe for use, is to deprive them entirely of these foreign substances.

4. *The Physiological Action of Capsicum*.—According to the author's experiments, the action of capsicum and its active principle capscine, consists chiefly in an excitation of the sensitive nerves, indicated by salivation, a more copious secretion of gastric juice, and by increased peristaltic movements of the intestines. In man, there has also occurred itching, with great irritation of the skin, and a sense of burning heat in the mucous membranes, with more or less marked congestion. The author denies that capsicum is, as Landerer has asserted, a violent poison. It is simply a condiment of an agreeable taste, and a useful remedy for atony of the digestive functions.

5. *Antagonistic and Antidotal Studies in Reference to Toxicology*.—In this paper, Husemann describes the results which he has obtained in administering to rabbits chloral hydrate as an antidote to certain poisons, e.g., thebaine, codeine, strychnine, brucine, calabarine, barium chloride, phenic acid, etc. The principal conclusions drawn from these experiments are that chloral hydrate is an antidote to strychnia and brucia, inasmuch as it reduces the convulsive movements excited by these two poisons. The tetanic convulsions

and the symptomatic anæsthesia produced by the baine are also neutralised.

In non-fatal doses, chloral arrests the symptomatic convulsions caused by ammonium chloride without, however, preventing fatal results. In this case, death arises from a combined paralysing effect of the two substances on the respiratory organs, since it takes place more rapidly under their united influence than when each is given separately.

The antagonising effects of chloral as an antidote to cerebral poisons which produce convulsions vary very much in degree. They are greater with picrotoxine than with codeine. A fixed dose of chloral may neutralise the noxious action of an equivalent fatal dose of codeine by causing a partial cessation of the convulsive symptoms due to this substance; but it will have no effect when the dose of codeine is doubled. The same observation may be made respecting the antagonistic influence of chloral or calabarine, the alkaloidal principle of Calabar bean.

Chloral has but little counteracting influence in poisoning with barium chloride. It does not prevent in any way the fatal effects.

The simultaneous administration of a fatal dose of phenic acid with a smaller dose of chloral, produces in rabbits a remarkable diminution of temperature, a symptom not observed in acute poisoning by phenic acid or chloral separately.

The respiratory movements are lowered by chloral when given as an antidote, much more in cerebral poisons attended with convulsions, than in those which produce tetanic convulsions.

Codeine, and probably all other convulsion-producing poisons affecting the brain, act, in general, on the convulsive centres situated in front of the medulla oblongata, before producing any impression on the bulbous centres.

In rabbits poisoned with brucine, the heart continues to beat for several hours consecutively.

6. *Poisoning by Cryptostegia Grandiflora*.—This case of death caused by *cryptostegia grandiflora* (N. O. Asclepiaceæ) is specially interesting. Dr. Lyon states that it is the first on record as far as he is aware, and gives the following account of it, supplied by Surgeon-Major Ticehurst, 13th Native Infantry, Malegaon.

"Deceased was a private in the 13th Native Infantry, aged about 40. Feeling unwell, he procured some of the leaves of the *cryptostegia*, powdered them, and mixed them with water, and then drank off the whole of the mixture. About half an hour afterwards he commenced to vomit, and continued to do so with scarcely any intermission until brought to hospital ten hours after taking the decoction. On admission, his pulse was scarcely perceptible, heart's action very feeble; skin cold, quite sensible, but could hardly speak; he appeared to be suffering from much pain in his chest and a sense of suffocation; retched occasionally, but did not actually vomit. He never rallied, but died about six hours after admission. There was no purging, no head symptoms, patient was sensible to the last. No unusual appearances were found on *post mortem* examination; and a portion of the plant, the leaves of which deceased had swallowed, was identified as the *cryptostegia grandiflora*. I have since examined the leaves of this plant, but have been unable to obtain any alkaloid from them."

7. *The Physiological Action of the Hydride of Tanacetyle*.—The hydride of tanacetyle is an

isomer of camphor contained in the common tansy (*tanacetum vulgare*). It is hardly ranked among poisons. The oil containing this camphor has been used in the United States for the purpose of procuring abortion, and in England as a vermifuge. The experiments performed by the author on frogs have but little value in reference to physiology or toxicology. In warm-blooded animals, he found that the chief symptoms produced by the hydride were convulsions; at first a general tetanus, and afterwards ordinary convulsions. During the attack, there was a loss of sensibility with a deadening effect on the special senses and on the intellectual powers. A. S. TAYLOR, M.D.

8. *A Case of Poisoning by Gelsemium Sempervirens*.—A boy, 2 years old, who was affected with catarrhal fever, had had fluid extract of gelsemium, two drops every three hours, prescribed to him. By some mistake, the mother read twenty-one drops every three hours, gave the quantity, and the child sank into a deep slumber from which it never awoke. Half an hour after she had given it the medicine, the mother noticed that it was cold and pallid; all attempts to arouse it failed. Medical aid was called in, spirits were injected into the bowels, electricity, friction, and counterirritation applied, but without success. The skin was cool, of a ghastly pallor, but not livid. The eyes were half open, dull, and staring. Through the parted lips, which were of an ashy hue, issued a frothy saliva. There was total insensibility. Respiration consisted of a feeble sigh, about fifteen times a minute. The pulse was not perceptible, but the heart contracted feebly about forty times a minute. Death was probably due to paralysis, which first affected the voluntary muscles, and then extended to the vital centres.

9. *Poisoning by Carbolic Acid*.—Dr. Sonnenburg says that if a solution of carbolic acid, varying in strength from 5 to 15 per cent., is rubbed into a small space of skin in animals, no changes will be observed in the kidneys but, if stronger solutions be used, and the process of rubbing it into the skin continued until symptoms of poisoning set in and the sulphates have disappeared from the urine, the kidneys always grow very strongly hyperæmic. In one animal, there was hæmorrhage into the cortical mass and bloody casts in the convoluted tubes. Traces of albumen in the urine could only be found twice in cases of acute poisoning. The author infers from this that carbolic acid could hardly ever be absorbed from a wound in sufficient quantity to cause symptoms of poisoning strong enough to produce hæmorrhages into the kidney. But, again, the peculiar property of carbolic acid, causing hyperæmia, etc., of the kidneys, might easily exercise a deleterious influence upon persons already suffering from functional troubles in the kidneys, owing to prolonged suppuration, and give rise to the occasional presence of albumen in the urine, where no other marked symptoms of intoxication are traceable.

10. *Three Cases of Poisoning by Veratrum Viride*.—It does not often occur that animals are poisoned by eating toxic substances, being held back from so doing, it is asserted, by their instinct. In this case, however, two cows and a mule which happened to eat a great quantity of fresh *veratrum viride* were poisoned; both cows died, the one within a fortnight, the other within a month. The mule, having probably eaten less of the plant, recovered. The symptoms were as follows. Loss of appetite, diarrhœa, with violent

straining, by which, three or four days later, only a little blackish glairy matter was expelled. The abdomen was inflated; the animals were very much depressed at times; the pulse up to the end was slow, weak, and intermittent. The pulsations of the heart were feeble, and after five or six pulsations the heart generally stopped beating for a time, equivalent to a pulsation and a half. The animals grew gradually but persistently thinner; milk was secreted up to the last day, but in very small quantities. At the *post mortem* the following changes were found in the bodies. A few red spots in the small intestines, an ecchymosis, with several ulcerations near the pylorus, and numerous ecchymoses in the heart, especially in the left ventricle, beneath the endocardium and pericardium. The other organs were healthy, but it is very much to be regretted that the nervous system has not been examined.

REVIEWS.

Grundsätze bei Behandlung der Syphilis. Von Dr. BERNHARD BRANDIS. Berlin: Hirschwald, 1879. (*Principles for the Treatment of Syphilis.* By Dr. BERNHARD BRANDIS. Second improved edition.)

The sulphur springs of Aix-la-Chapelle have been long famous in the treatment of syphilitic diseases. Whether this be an erroneous notion is not entertained by Dr. Brandis in his present work. Fortunately our author does not depend solely on the use of the mineral water of his own town for effecting a cure, but advocates an inunction of mercurial ointment in nearly every case, hereditary or otherwise. In the very intractable forms of the disease, iodide of potassium is also administered internally. Dr. Brandis divides his special treatment into three heads: firstly, the body must be prepared for the absorption of the mercury, and blue ointment must be employed in sufficient quantities as an inunction. The waters at Aix are thought to be peculiarly adapted for rendering the skin soft and readily absorbent; the patient must, therefore, take a bath every day at a temperature of 28° R., and remain in for half an hour; if a steam bath be preferred, a quarter of an hour suffices. A soft glove is recommended for the rubbing, and Sigmund's plan is adopted; this implies that for twenty minutes daily the inunction is to be used as follows: on the first day to both legs; on the second, to both thighs; on the third, to belly and breast; on the fourth, to back; on the fifth, to both arms. Four or five grammes is the dose for an adult; a gramme and a half to two grammes for a child.

The second point is that the patient's general health must be looked after. Plenty of fresh air, large rooms, generous diet, and a certain amount of stimulants are allowed. In addition, every morning should be drunk two or three glasses of the mineral waters; if it be the winter season, this may be taken in bed, but in summer should be swallowed at the spring. To guard against mercurial stomatitis, astringent washes are advised to be repeatedly employed; one composed of alum is considered to be the best. The teeth should also be carefully brushed with prepared chalk after each meal.

Thirdly, it is the author's opinion that the inunction should be continued for a sufficient length of time; after all specific sores have healed, the rubbing should be carried on for eight or ten more

days. Many instances are brought forward to show the success that has attended Dr. Brandis' practice in those whom, at first sight, seemed to be very unfavourable subjects. T. F. CHAVASSE, M.D.

Die Furchen und Wülste am Grosshirn des Menschen. Von AD. PANSCH. Berlin, 1879.

This pamphlet contains an excellent description of the surface of the human cerebrum. The description of each fissure and gyrus is preceded by a table of its synonyms as used by Ecker, Bischoff, Henle, Broca, and Turner. It is illustrated by several lithographed plates, coloured so as to bring out the author's particular views. Especially commendable is its clear and logical arrangement.

Pansch accepts the teaching of His, that there are essentially two kinds of cerebral folds or furrows: (1) *Fissures* (Totalfurchen), which result from an inflection of the walls of the cerebral vesicles in their entire thickness; and (2) *Sulci* (Rindenfurchen), which are caused by an inflection of the cortex only. The two main factors in determining the importance of a furrow are the earliness of its appearance and its depth. Pansch recognises four fissures: fiss. Sylvii, occipitalis, calcarina, hippocampi. The *primary* sulci are distinguished by their early appearance, constancy, and depth. In man they appear about the sixth month. As such, are included the sulc. Rolando, parietalis, frontalis (præcentralis of Ecker), temporalis (sup. temp. of Ecker), olfactorius, and occipito-temporalis (collateral fissure of Huxley). The s. Rolando is no exception to the rule that the primary sulci may be bridged over by secondary convolutions, but in its case this happens very rarely. The variations in the sulci are carefully pointed out. As doubtful primary sulci, or as primary sulci of the second order, are given the sulc. medialis fronto-parietalis (callosal-marginal fissure) and frontalis superior. The former is peculiar, in that it is often the earliest sulcus to appear, and yet it seldom attains any considerable depth. The sulc. occipitalis transversus (fiss. occipit. externa) appears in man about the eighth or ninth month: it is not to be regarded as a primary sulcus.

Pansch disapproves of the usual division of the cerebrum into lobes as being artificial and unscientific. He divides the cerebrum into *lobules* (Hauptwülste), which are bounded by the fissures and primary sulci, these again being subdivided into *gyri* (Nebenwülste). The lobules are the inferior frontal, superior frontal (including the superior, middle, and ascending frontal gyri), superior parietal (including ascending and superior parietal gyri), inferior parietal, superior temporal, inferior temporal, medial orbital (gyrus rectus), lateral orbital, anterior medial, posterior medial (cuneus), medial occipito-temporal (uncinate gyrus of Turner), and, lastly, lateral occipito-temporalis (including the inferior internal temporal gyrus and inferior temporo-sphenoidal gyrus of Turner). The anterior medial lobule comprises the gyrus singuli and the gyrus medialis fronto-parietalis: the former answers to the gyrus fornicatus and præcuneus of authors; the latter to the marginal gyrus of Turner or the mesial surface of the superior frontal gyrus of Ecker. In addition to the lobules, Pansch describes an *extremitas frontalis, temporalis, occipitalis*. Ecker's, Bischoff's, and Jensen's divisions of the "occipital lobe" are given, but with none of them is the author satisfied. An account is also given of the views of Ecker and

Wernicke as to the homologue in the brain of man of the characteristic "perpendicular fissure" of apes.

This outline of the leading features of Pansch's work will show that it is a valuable contribution to the deeper study of the surface of the cerebrum.

W. J. DODDS, M.B., D.S.C.

NEW INVENTIONS.

SELLERS' MISTURA BISMUTHI COMP.

This is one of the most elegant and readily available preparation of Bismuth yet introduced. In the Protean forms of dyspepsia, catarrhal gastritis, diarrhoea from irritation, pyrosis, tropical dysentery, etc., bismuth has won its well established reputation, and, of all the preparations of the mineral we know of none more likely to be popular than this. It is manufactured by Mr. John Sellers, 25, Ely Place, Hatton Garden, London, E.C.

CINCHONA RUBRI FLUID AS A REMEDY FOR DRUNKENNESS.

Messrs. Evans, Son, and Co., have met the popular demand for a fluid extract of red bark, created by the alleged discovery of a Dr. D'Unger that it is a specific against drunkenness, by introducing to notice on a large scale a trustworthy and well prepared extract of the fluid. Of course, in such a matter, it is of the first importance that the extract alleged to be of "red bark" should be prepared by a trustworthy firm, of adequate reputation, honour, and experience, since inferior preparations of little value as to the quality and contents of the active principles of bark may otherwise readily gain currency. We should rely on the well-known character and position of this firm; and, in respect to the efficacy of the remedy for the purpose for which it has become popular, we should say that, while no drug can be claimed, so far as we know, as a specific against drunken craving and impulses, on the other hand, it is a well-known fact, and one on which, with the aid especially of Dr. T. Lauder Brunton, we have endeavoured to furnish specific information of value to medical men, that considerable help may be given in stilling the cravings of an irritated and debilitated mucous membrane and a broken-down nervous system by judicious medical prescriptions. The use of such a preparation of tonic bark, at fixed periods during the day, coupled with the frequent administration of warm, stimulating, easily digested fluid food, such as a small quantity of well made beef-tea, or of some of the excellent preparations of "fluid beef", or "raw beef extract", half an hour before meal times, and a cup of hot cocoa before retiring to rest, are adjuncts to moral influence of the highest utility in enabling a person who has contracted habits of drinking to emancipate him or herself from them. A good resolution, a bottle or two of red extract of bark, a lively faith in its virtues, may yet save many an otherwise hopeless tippler, or even confirmed inebriate. Although, therefore, the account which Dr. D'Unger was reported in a great number of newspapers to have given of the virtues of Red Extract of Bark and its physiological mode of action on the body, was to the last degree ignorant and absurd; the remedy is a good one, both for the mind and the body of the drunkard, and we wish it the largest possible popularity. If every district visitor can

persuade the drinking men and women of her district to substitute extract of red bark for alcoholic drinks, she will do more than Sir Wilfred Lawson himself to promote temperance and remove a fertile source of disease and misery.

OBSERVATIONS ON THE CRAYFISH.—Some points in the physiology of this animal have lately been inquired into by M. Richet (*Comptes Rendus*). While the phenomena of muscular contraction in vertebrates, especially the frog, have been much studied before, little attention has been paid to the same in invertebrates. With the myograph (which records muscular movements), M. Richet found, among other things, that the single contraction of the muscle of a claw, when stimulated, lasts nearly ten times as long as that of the muscle of the tail, but the beginning of the contraction is not more retarded in one muscle than in the other. The caudal muscle gets exhausted very quickly; after thirty or forty successive shocks it no longer contracts. This agrees with the fact that the crayfish cannot swim far. On the other hand, the muscle of a claw excited by the same closely successive electric currents is not exhausted. While the tetanus of the tail muscle lasts only twenty or thirty seconds, the muscle of a claw remains contracted nearly half an hour, and during the first five minutes the constriction of the claw grows stronger and stronger. This corresponds to the fact that a crayfish, having seized its prey, will almost sooner die than let go. But, while the muscle of the claw is very sensible to electric shocks in quick succession, it is very quickly exhausted by isolated electric excitations. Again, a separated claw, protected against evaporation and heat, retains its contractility more than four days; probably no muscle of any vertebrate would do so. In another paper, M. Richet studies the effect of heat on the nerve-centres of the crayfish. He distinguishes between voluntary and reflex actions. If a lively crayfish, fresh out of the water, be held by the back between the two fingers, it tries to seize objects with its claws. If you touch the internal border of a claw, the animal constantly closes it; not so if you touch the external border; there is then no constriction. But that this constriction is not a reflex action is shown by the fact that if the claw be touched internally when the animal is under water, the latter may choose either to seize the aggressor or seek escape in flight. Properly reflex movements appear on section or stimulation of the antennæ, touching the ocular globes, or section of one of the claws. M. Richet finds, then, that by temperatures varying from 23 deg. to 36 deg. C. (as well as by asphyxia when the animal is out of water), the various functions of the nerve-centres may be separately paralysed. The voluntary "intellectual" innervation disappears first at 23 deg. to 26 deg., the reflex innervation proper at 27 deg. to 29 deg., and the innervation of respiration at 28 deg. to 30 deg. At 37 deg. the muscles are quite dead.

SINGULAR DISPOSITION OF PROPERTY.—Dr. Sacks, a dentist of Vienna, lately deceased, has left a large fortune which he disposed of in the following curious way. He bequeathed to each of his relatives a monthly stipend of £12, and to a distant relative in Galicia the sum of £80. The rest of his fortune, which amounted to £14,000, was to be divided in two equal parts. The interest of one of these parts is to be distributed to persons affected with diseases of the heart and aorta who are suffering from congestion of the brain, and, as they can neither sit or stand still in the same place, have thereby been obliged to give up their work. Bachelors are to be considered in the first place, then married men. The interest of the second portion is to be given to the children of poor people (it makes no difference whether they are born legal or illegal) who are devoting themselves to technical studies all the time these last. The executors of this will are the members of the orthodox Israelite congregation in Vienna, who also decide as to the amount of the sum which is to be given to each applicant.

DESCRIPTIVE REPORT OF SURGICAL INSTRUMENTS,

RECENTLY INTRODUCED BY BRITISH AND FOREIGN MAKERS.

A NEW GAG.

This ingenious contrivance will be found particularly useful in dealing with patients who will not open their mouths sufficiently to admit the insertion of a surgical instrument, etc. It consists of two parallel blades; of which the lower one is made of metal, is flat, and can easily be inserted between the teeth. The upper blade terminates in an ivory plate,



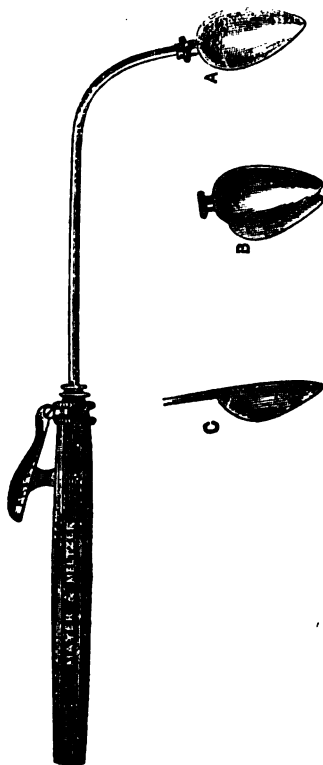
and is so constructed as to fit into the groove which separates the lower blade from the teeth. When the lower blade has been inserted between the teeth, the upper is pushed into the groove, and the handle of the instrument is slightly pressed. The blades then separate to any required extent. The contrivance can easily be handled, and is irresistible in all cases where the movements of the jaw are not limited by some material obstacle. It is very useful for operations in the mouths of children, and for cauterisation. Made by Collin, 6, Rue de l'Ecole de Médecine, Paris.

DR. WHISTLER'S LARYNGEAL DILATOR AND KNIFE.

This instrument, invented by Dr. Whistler, Physician to the Hospital for Diseases of the Throat and Chest, London, is composed of a steel staff, with a rectangular curve, to the extremity of which is fixed, by means of a nut, an almond-shaped dilator. Within this dilator there is a concealed blade, the movements of which are governed by cannula mechanism. The blade is reversible, and so may be protruded either anteriorly or posteriorly, as the requirements of the individual case may demand, by pressing upon a lever attached to the handle.

The dilators are of three different sizes; the

largest one measures, at the base or widest part, 18 millimètres antero-posteriorly, and 10 millimètres transversely. The corresponding measurements of



the medium size are 14 and 8 millimètres, and those of the smallest are 11 and 7 millimètres. They each taper to a point, and are all 34 millimètres long.

This instrument combines the properties of a dilator and a knife, the advantages of which are as follows: 1. The dilator, from its weight and shape, can be easily introduced into the larynx; 2. The tissues are not incised until they are put upon the stretch; 3. The protruded blade only partially cuts through the constriction, while the remaining portion is torn through by the dilator. This prevents the rapid adhesion of the edges of the wound, which is so apt to occur after a clean incision; 4. Not least in importance is the safety in operating with a guarded knife. This last advantage is no small one when it is considered how comparatively little the eye can do in laryngeal operations. The class of cases for which it is designed is that where, with partial recovery from stenosis, there yet remains general constriction from thickening, associated with adhesions. It has been very successfully used in overcoming such a morbid condition of the larynx, in cases where tracheotomy had been previously performed, allowing the subsequent removal of the tube.

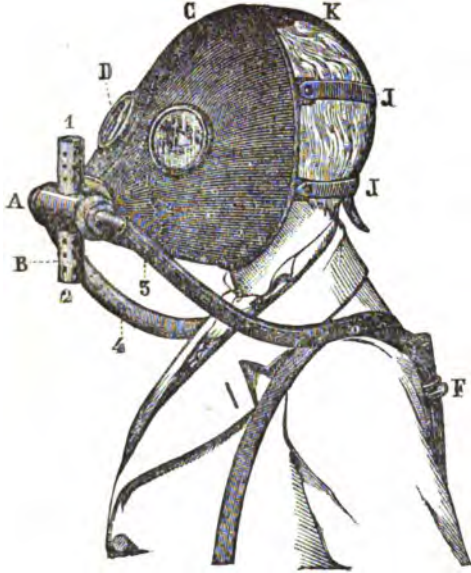
This instrument, which supplies a much felt want, is made by Messrs. Mayer and Meltzer, 71, Great Portland Street, London.

THE RESPIROL.

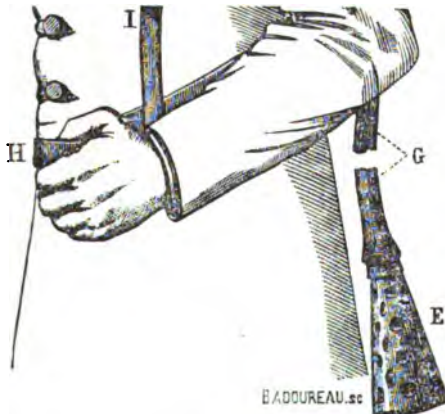
This apparatus is intended to be used by persons who are obliged to work in a bad atmosphere, such

as chemical laboratories, mines, cess-pools, manufactories, or, in cases of fire, in the midst of smoke. It consists of two parts: the mask or hood and the respirator proper.

The mask or hood, C, is made of rubber cloth, or some other waterproof tissue, and attached to the head by means of the straps, K, T, which are made of the same material. Between the mask, C, and the face is an open space filled with air. The individual is thus enabled to breathe freely, both through the nose and the mouth. Two small apertures, D, admit light, and allow the workman to see before him. Underneath the hood and opposite the



mouth is the respiratory apparatus, or respirator A, B, which is furnished with inspiratory and expiratory valves. This portion of the contrivance consists of a cylinder, which communicates with the interior of the mask by means of a rubber tube. The cylinder is furnished with four valves, two lateral ones, through which passes the inspired air coming from the bifurcated tube, 3, 4, and two vertical ones, 1, 2. These are covered with metal, and allow the ex-



pired air to escape, as well as the surplus of air which may exist in the space between the mask and the face. The valves are made of rubber, glove-

finger shaped, and having two or four slits at their end. They are so disposed that they open and shut alternately at a given moment. The metal capsules, 1, 2, which protect the expiratory valves, are perforated.

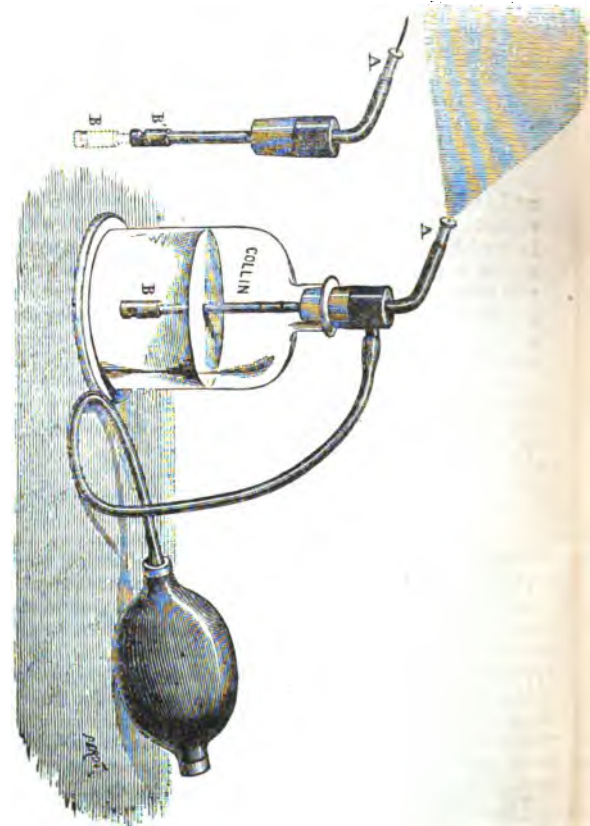
The air-tube, G, is attached by means of a ring, F, to the shoulder straps, F, I, which are adapted to a belt, H. The tube, G, at its top divides into two branches, 3 and 4, which pass along either side of the head, and terminate at the respiratory apparatus, A.

By means of a rope attached to the straps, the workman may either be drawn up or let down to the place where he works. The end piece, E, is pierced with small holes, and filled with cotton for the purpose of filtering the air.

In laboratories and manufactories where the noxious vapours are lighter than the air, or if the latter has only been vitiated by poisonous dust, it suffices to place E on the floor of the room behind the workman to obtain pure air. The apparatus may also be connected with any form of air-pumps, if necessary. Made by J. Léard, Apothecary, 24, Rue de Charonne, Paris.

AN INHALER WHICH CAN BE CLEANSED AUTOMATICALLY.

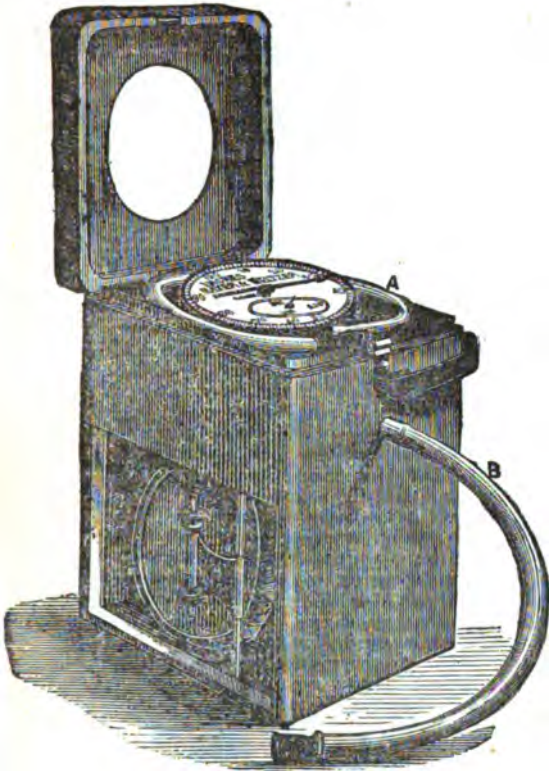
The difficulty of keeping the tube of an inhaler clean is well known. If it is of glass, it must be broken, and, if of metal, it is bent out of shape by introducing needles or wires, etc., and ceases to pulverise. This drawback is avoided in



this new contrivance. In the metal tube is contained a small metal stem. When the end piece is stopped, it suffices to press the point B with the finger, and the metal stem A is protruded through the tube, thereby removing the stoppage. It is then pushed back, and the tube replaced in the bottle. Made by Collin, 6, Rue de l'École de Médecine, Paris.

DR. JAGIELSKI'S SPIROMETER,

This instrument is made by Messrs. Mayer and Meltzer, surgical instrument makers, 71, Great Portland Street, W., and combines all the advantages of correctness, convenient size, simple management, and neat appearance. It is cased in morocco leather with a leather handle at the top, so that the instru-



ment can easily be carried about. Its height is 9 in. ; width 5 in. ; and depth 6½; its weight 5 lbs. 14 ozs. The spirometer has three horizontal compartments, one above the other. The lowest compartment is open to view, having two glass windows, and is divided by a vertical partition, on either side of which there is a round diaphragm, containing a space of ten cubic inches each when expanded or filled; these two chambers can be seen working alternately during expiration and inspiration, the one contracting when the other expands. The middle horizontal compartment contains the valve-apparatus communicating the movements from the lower compartment to the indicating apparatus above. This latter, or recording apparatus, has a visible dial, for which a cut is left in the movable cover; around the dial there is an open space large enough to hold the elastic breathing tube after use.

This spirometer gives the vital capacity for inspiration as well as for expiration, the amount of

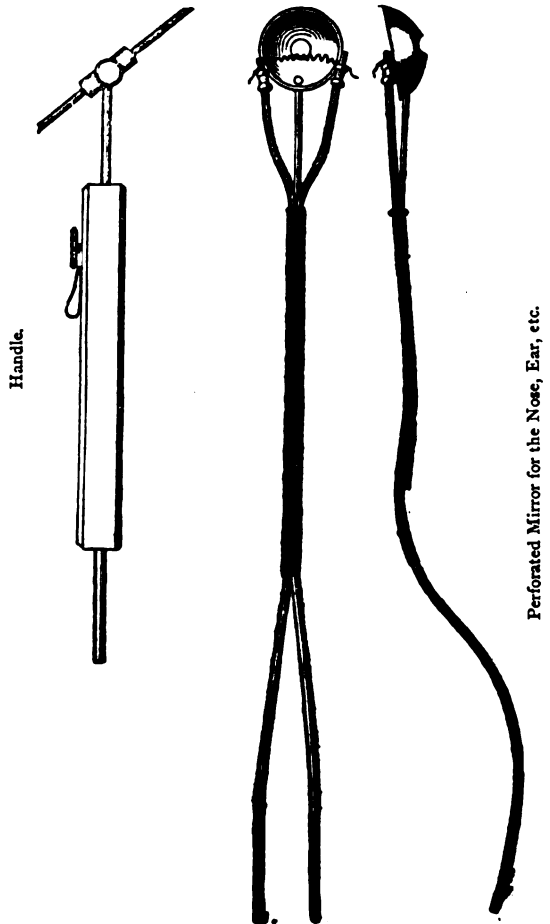
which may be read from the dial, on which there are two hands to be seen in rotation when used. The large one indicates every single cubic inch in inspiration when moving from the left to the right, and, in expiration, from the right to the left; once around it records 100 single cubic inches. The small handle on the small dial indicates from 100 to 150, 200, 300 cubic inches on one rotation, and moves in an opposite direction to that of the large handle. In blowing into the tube, it must be done with but a moderate strength, so that the large hand may move on slowly and steadily; that the observer may be able to follow its movements on the register.

These instruments, used for several years, show no difference in their accurate registration from the first day of use, and do not require any particular care when put away. Price six guineas each.

The paper on "Spirometry" in connection with his Spirometer, read by Dr. Jagielski before the London Medical Society, is now reported in full, with all requisite information on the subject, and is to be had from Messrs. Mayer and Meltzer.

DR. HEDINGER'S ELECTRIC MIRROR FOR ILLUMINATING CAVITIES OF THE BODY.

This apparatus consists of a highly-polished semi-globular convex mirror, in the focus of which the illu-



minating wire is placed. For certain cavities it will be found advisable to fasten to this mirror a plain mirror, which may be easily removed and bent in different directions by means of a thin piece of copper. The wires are attached to the mirror by being drawn through a hole on both sides of it, and maintained there by a screw. The convex mirror is either perforated or not, the latter form is used for exploring the pharynx and the naso-pharyngeal cavity, and the former for exploring the nose and ear. The wires must be of middle size, neither too



Mirror for Pharynx and Nasal Cavity.

- a. Plain Mirror.
- b. Silver Concave Mirror.
- c. Platinum Wire.



thick nor too thin, and made of platinum. The light is obtained from a modified Bunsen's electric battery. The contrivance can be had from G. Baur, surgical instrument maker, Stuttgart.

IMPROVED FEEDING TUBE FOR LUNATICS.

SUGGESTED BY MR. T. NEWINGTON, LATE ASSISTANT MEDICAL OFFICER, BETHLEM ROYAL HOSPITAL.

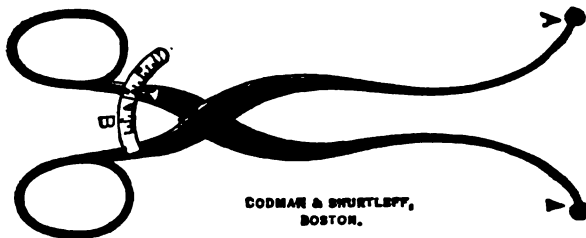
This instrument consists of a hollow vulcanite ball which unscrews into two halves, to the lower of which are attached two flexible tubes fifteen inches long for insertion through the nostril of the patient, while to the upper part is attached a third tube of larger calibre, and provided with a glass funnel for pouring fluids and semifluids into. No metal is used in its construction, it is not liable to get out of order, and is very easily cleaned. This instrument presents the advantages of cleanliness, speed; and efficiency. By its use, a patient can be

fed with a pint and a half of fluid in about three minutes. It is convenient in using it to place the patient on his or her back, fixing them by means of a sheet across the body, and a towel over the forehead, the ends being steadied by the operator's knees.

This feeding tube is manufactured by Messrs. F. Walters and Co., 12, Palace Road, Lambeth, S.E.; and 29, Moorgate Street, E.C.

DR. BARKER'S VAGINOMETER.

This instrument consists of two blades, armed at their extremities with small, hard-rubber buttons, A, A, and having attached to the handles an indi-



CODMAN & SHURTLEFF,
BOSTON.

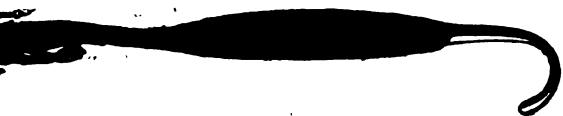
cator, B, so graduated as to tell the distance between the two points when opened. Made by Codman and Shurtleff, Boston.

BODDAERT'S NEW SPECULUM.

This instrument consists of a metal stem, to which any of the three valves may be adapted by means of the set-screw. The specula are double, and when closed, resemble much a Sims's speculum, except that their rims are wider. A movable handle, E,



serves to maintain the instrument *in situ* during operations of some duration.



The following are the principal advantages of this new contrivance. It is easily introduced, and in most cases enables the surgeon to dispense with an assistant. The elevated rims of its valves keep back the vaginal walls. It is so constructed that the profound parts of the vagina are much more dilated than the anterior portion. Made by G. Clasen, Brussels.

DR. BORCK'S CYST ELEVATOR.

This is a simple instrument, made of strong steel wire, in the shape of a tuning-fork, slightly curved, in the form of a double-needle. Fig. 1. A is the instru-

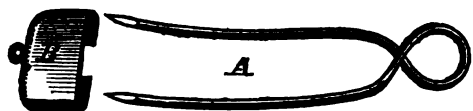


Fig. 1.

ment half-size; B, a cap to protect the points. The instrument is thrust into the cyst after opening the abdomen, as shown in fig 2. It is then handed to



Fig. 2.

the first assistant, who holds it upon the fingers of his right-hand, as shown in fig. 3. The trocar is



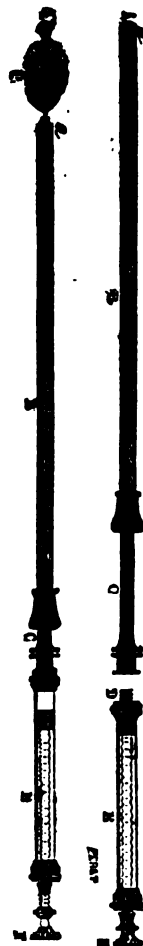
Fig. 3.

introduced by the operator perpendicularly downwards into the cyst, and between the prongs of the elevator and the fingers. Made by Leslie and Co., St. Louis, U.S.A.

MÉNIÈRE'S GRAPHIDOMETER.

This instrument consists of a Pravaz's syringe, to which an India-rubber tube is adapted. The latter contains a brush of asbestos, through the middle of which runs a wire of silver or platinum. The brush

can easily be saturated with any given fluid, and pushed out of the tube when it is desirable to cau-



terise uterine growths, etc. Made by Mariaud, Boulevard St. Michel, 43, Paris.

ACLAND'S SAW FOR REMOVING PLASTER OF PARIS BANDAGES.

This saw was invented by Mr. T. D. Acland of St. Thomas's Hospital for the removal of the plaster of Paris jackets used in Sayre's method of treating Pott's disease, and also for other plaster of Paris splints. It consists of a saw blade $4\frac{1}{2}$ inches long, with handle fixed at the top end of the blade, and curved so as to facilitate the working of the saw in the operator's hands. Attached to the blade on either side are broad metal guards, fixed by means of thumb-screws, and which can be regulated up or down the blade, according to the thickness of the bandage, and fixed at any particular distance from the teeth of the saw; when once these guards are fixed the surgeon can cut to the depth required without any fear of injuring his patient. It is extensively used with great success in the wards of St. Thomas's Hospital.

The saw is manufactured by Messrs. T. Walters and Co., of Palace Road, Lambeth, and Moorgate Street.

MISCELLANY.

THE DESTROYERS OF TELEGRAPHS.—It appears, from an official report from Sumatra, that the telegraphic communications in this island are frequently interrupted by elephants. During the years 1875-1878 this happened sixty times. Once, after a great portion of the line had been destroyed, the wires and posts were found hidden away in a jungle, and, during three consecutive nights, all the work which had been done in the day time for the purpose of restoring the line was destroyed during the night. It would be interesting to discover the reason why the elephant should be so excessively ill disposed towards inoffensive telegraph posts as to destroy them systematically. But it seems as if all the animals in this remote part of the world are in league against this modern invention. Buffaloes can never resist the temptation of passing by a telegraph post without rubbing themselves against it; and they, as well as bears and tigers, seem to take a malicious pleasure in patrolling about them and thus frightening away the watchmen who have been detailed to keep the elephants off. Monkeys, great and small, evidently look upon the wires as having been put up for their special amusement. They swing and perform all sorts of gymnastic exercises on them till they are broken.

DR. JAMES GEORGE BEANEY, F.R.C.S.E., Senior Surgeon of Melbourne Hospital, has presented the University of St. Andrew's, of which he is a medical graduate, with the sum of £1,000, for the better endowment of the chair of medicine and anatomy.

At the *conversazione* given by the College of Physicians on the 2nd instant, there were shown among the scientific exhibits, Dr. B. W. Richardson's sphygmograph and the cardiographs, mercurial and gas sphygmoscopes, the hæmaglobinometers, and Dr. Gowers' hæmacytometer, for the numeration of blood-corpuscles, shown by Mr. J. Hawksley of Oxford Street, which attracted a large share of attention. The great topic of discussion during the evening, however, was a series of transparent micro-photographs exhibited by Dr. Norris, to demonstrate the existence of a third corpuscular element in the blood, which, he says, has hitherto escaped recognition, owing to the fact that it possesses the same colour and refractive index as the *liquor sanguinis*, and is, therefore, invisible while submerged in that liquid.

ANTHROPOLOGICAL STUDY.—A recent examination of the body of a male chimpanzee in Philadelphia, by Prof. Leidy, of the University of Pennsylvania, is a matter of interest to anthropologists generally. It will be recollected that within the past year we had occasion to notice an examination of a similar specimen by Prof. E. C. Spitzka of this city. The examination by Prof. Spitzka was the first one of this kind that was made of the brain of the chimpanzee, and established some important facts relating to the development of this organ. In his specimen, the dimensions, the outline, and the proportions of the brain were similar to those of the new-born infant, as might be inferred from the size and shape of the cranium. There were, however, several distinctive features which became apparent on careful examination. The cerebrum overlapped the cerebellum, consisted of the same number of lobes as in the human subject, was as rich in convolutions as the brain of the Bechuana, and possessed an island of Reil, with the addition of an operculum for the occipital lobe. The trapezium was absent, as in the human subject, and the olivary bodies were present; the latter being well developed, and causing the usual prominence of the medulla. The dissection made by Prof. Leidy bears out the conclusions reached by Prof. Spitzka as far as the general conformation of the brain is concerned. We have learned incidentally that an examination, made a few weeks since by Dr. H. C. Chapman of Philadelphia, of the brain of a female chimpanzee, presented some marked anatomical differences from those recognised in the male specimens.

It is presumed, however, that these differences are more in degree than in kind, and possibly may be explained upon the supposition that the brain of the male specimen is better developed than that of the female. From all accounts it would appear that the brain examined by Prof. Leidy was an unusually large one, as it is reported that the cerebellum was quite, if not entirely covered, by the cerebrum. But the marks of differences between the male and the female specimens are more noticeable when the conformation of the vocal organs is considered. The male, who is noted for his loud and piercing cry, possesses the anatomical peculiarity of a natural bagpipe, which communicates with the larynx, extends to the breasts, into the arm-pits, and is covered by powerful muscles. The other organs of the bodies examined presented no peculiarities worthy of notice.

CRUELTY TO ANIMALS.—Lord Truro has presented to the House of Lords the same Cruelty Prevention Bill as was introduced into the House of Commons by Mr. Holt. The proposal is to repeal the Act of 1876, which, while prohibiting vivisection in general, allows it for the advancement of knowledge by discovery, and in some cases for the illustration of lectures. In place of this statute it is proposed to enact that, if any one cruelly torture, or wantonly or barbarously injure, any vertebrate animal, he is to be liable to punishment, and that it shall not be lawful to perform any experiment causing, or being in itself of a nature to cause, pain or disease in a vertebrate animal, except for the purpose of alleviating or curing disease. Not only are the persons performing or taking part in the experiment to be punished, but also those who permit it to be performed on premises over which they have control. The Bill further provides that notice must be given to the local authority and repeated yearly by the occupier of any premises on which it is desired to establish an "infirmary for animals"—by which is meant, "a place in which animals are received for the performance of any surgical operation, or for the treatment of disease"—or to keep a "physiological laboratory"—by which is meant a "place set apart or used for anatomical or physiological investigations". The local authority is directed to keep a register of all these occupiers and places within its district, and to appoint an inspector, whose duties are to visit these registered places, and also all slaughter-houses and knackers' yards, and to prosecute all persons offending against the provisions of the Bill. On receiving information on oath that there is reasonable ground to believe that an offence against the Bill has been or is about to be committed anywhere, justices of the peace are directed to issue warrants authorising police officers to search the premises and to demand the names and addresses of any persons found there, and to seize anything required to be produced as evidence. The maximum penalty for infringing the provisions of the Bill is fixed at fifty pounds, or, in the discretion of the Court, six months' imprisonment. The offence is to be prosecuted in a court of summary jurisdiction, unless the alleged offender elects to be tried on indictment.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.—Mr. Charrington, chairman of the Board of Management of this hospital, presided on the 9th instant at the distribution of prizes in connexion with the training of nurses, which is going on at this institution. The first series of lectures, which was given by Mr. Hayward, resident medical officer, during the past winter, consisted of elementary physiology and chemistry. Each lecture being illustrated by experiments and demonstration. Thus, among the other subjects, food and its digestion were fully explained, and also the chemistry of air, including ventilation and water. The lectures seemed to be highly appreciated, and at the end of the session an examination was held. Seeing how important it is that those who are in charge of the sick should understand something of the *rationale* of disease, in order the more intelligently to carry out the instructions of the medical man, we commend the authorities of this hospital for the good work they have instituted.

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PÉTÉR AND VIDAL ON LOCAL TEMPERATURES IN DISEASE.*

PROFESSOR PÉTÉR has for some time been studying, by a long series of researches, morbid local temperatures. In his first communication to the Academy (*Bulletin de l'Académie de Médecine*, 2nd series, vol. vii, No. 8), he occupied himself exclusively with the temperature of the chest in cases of acute pleurisy, and variations of the temperature, according to certain fixed conditions.

In his experiments, Dr. Pétér employs the ordinary medical thermometer, which he places successively in the same intercostal space of the diseased side and the healthy side, and then in the axilla of the healthy side. The following are the principal results obtained by this method:—First—outside of the pleurisy the parietal temperature is always higher than the average temperature. The local excess of heat is from five-tenths of a degree to upwards of two degrees, and sometimes exceeds this figure. Second—the elevation of the temperature increases with the effusion; that is to say, the greatest elevation of local temperature corresponds to the period of secretory activity of the inflamed pleura. This hyperthermia amounts sometimes to from two and a half to three degrees. Third—the elevation of parietal temperature decreases in the statical period of the effusion; that is to say, when the level of the fluid remains stationary, or in other words, when secretion is not going on. The temperature, however, still exceeds that of the sound side by from half a degree to one and a half degrees. Fourth—pleurisy not only raises the parietal temperature of the side on which it is seated, but it raises also that of the opposite side. The parietal temperature, however, of the diseased side is always higher than that of the healthy. Fifth—the parietal temperature drops gradually when the effusion is spontaneously absorbed, still remaining higher than that of the healthy side. This excess of heat lasts for some time, and should not be neglected. It explains, indeed, the possibility of relapse, since it indicates the persistence of the anatomical conditions which preside over the formation of the effusion. Sixth—in pleurisies without effusion, the local excess of heat is less than when there is effusion. The return to the normal temperature also occurs more rapidly. Seventh—the absolute elevation of the local temperature on the diseased side is more considerable than the absolute elevation of the axillary temperature.

What, then, happens when thoracentesis is performed? Immediately the parietal temperature rises on the punctured side. If the effusion is not reproduced the hyperthermia may still increase by some tenths of a degree; but this excess only lasts for some hours. Then the parietal temperature decreases, returns to the figure which it had before the puncture, continues to decrease, and finally returns to the normal figure. If the effusion is reproduced, to be again reabsorbed, the local temperature rises after the puncture during some

days, then progressively decreases under the influence of medical treatment. If, on the contrary, a fresh puncture is rendered necessary, there results a local, and then a general hyperthermia, the temperature remains stationary with the effusion reproduced, and at each new puncture the same series of phenomena is produced.

According to Dr. Pétér, the local hyperthermia consecutive to the puncture must be considered as a consequence of *hyperæmia a vacuo*. This quite mechanical hyperæmia is necessarily additional phlegmasic hyperæmia. There are thus two congestions of blood in lieu of one, whence occurs augmentation of tension in the vessels of the still inflamed pleura; and whence also greater richness of the new fluids in leucocytes. Thus the possibility of a purulent transformation of the effusion is comprehensible in the cases where the puncture has been made in the highly febrile period of the pleurisy. The syncope, pulmonary congestion, albuminous expectoration, pain and oppression, which have been noted as the sequel of too sudden depletions of the pleura, are not less easily explicable.

In a further paper on the local temperatures and pulmonary phthisis (*Bull. de l'Académie de Médecine*, 2nd series, vol. vii, No. 37), Dr. Pétér endeavours to demonstrate that so soon as tubercles occur at any point, the local temperature rises there. Thus, in cases of pulmonary tubercularisation which are still dubious, when it is only by the aid of the most minute investigation that one perceives a slight difference of the tensility and the elasticity of the region, and a little dryness of the vesicular murmur, with respiratory emphasis, the thermometer already shows an elevation of temperature, which may extend from three-tenths of a degree to one degree. The average local temperature of the thoracic wall being in a healthy subject about thirty-six degrees centigrade; this temperature reaches, in the cases referred to, 36.2, 36.3, 36.5, 36.8 degs. Moreover, this hyperthermia is in general proportioned to the intensity of the local morbid signs. If, for example, the temperature of 36.2 degs. is found outside of the chest where there can scarcely be observed a slight modification of the sound and rhythm of the respiration, there will always be found several tenths more outside where the respiratory roughness is very evident, the emphasis more marked, and the dullness more pronounced. Thus the thermometric method would permit the establishment of a diagnosis in cases where the most experienced practitioners would, up to the present time, have hesitated. Who does not know, for example, how much the symptoms of chlorosis resemble those of tuberculosis at the outset? Now, in chlorosis the temperature of the upper intercostal spaces remains at about 36 degs., and is in all cases equal on both sides for the same space; whilst in pulmonary tubercularisation, the temperature there is always superior to the average by several tenths of a degree to one degree, and the hyperthermia is unequal on one side compared with the other, as are the lesions. Moreover, the investigation of the local temperature of the superior intercostal spaces may serve to fix the diagnosis, in cases in which it is necessary to determine whether a dyspepsia with wasting is idiopathic or symptomatic of commencing tubercularisation. M. Pétér cites various interesting observations of cases in which the employment of this method has permitted him to arrive at the truth.

It is especially the disparity in the local hyper-

* *Revue des Sciences Médicales*, No. 27.

thermia of the summits of the chest which constitutes an affirmatory sign of the existence of a local lesion. This disparity is indeed necessarily associated with the actually differing anatomical and physiological conditions of usually similar parts of the organism, the temperature of which ought to be normally equal, and to rise or fall simultaneously, and in parallel lines, if the thermic modifications arise from a general cause. On the other hand, if the figures are dissimilar or too homologous in identical spaces, it is because the conditions which generate heat are changed there; and, under the circumstances, they can hardly be so, except by the tuberculisation, which is almost always simultaneously developed at the same points of the summits of the lungs, without being habitually symmetrical there, either in the number, the depth, or the extent of the lesions.

Dr. Pétér has investigated the influence of hæmoptyses on the local temperature. He has found that it rises at the moment of the bleeding; that it remains high while the bleeding lasts, and then drops as it passes off. The variations of local temperature may even extend to the general temperature. In *caseous pneumonia* the hyperthermia is yet more considerable than in ordinary tuberculosis. It may amount to three or even four degrees.

Thus in all the phases of pulmonary tuberculisation, there is a local elevation of the temperature which cannot be conceived without a concomitant and generating hyperæmia. In the first phases of the disease, this hyperæmia would be, according to the expression of Dr. Pétér, "trophica-tuberculous", or tuberculising; necessary to the development of the tubercle, and circumscribed to the very points at which the tubercle is in course of germination. Later on, the hyperæmia would radiate from the tubercle formed at the intact points of the parenchyma, so as to engender there congestion, hæmorrhage, or inflammation. The practical and therapeutic conclusion to be deduced from this view is that it is important to modify and to prevent trophic hyperæmia, whilst it is only localised, from radiating and from disordering the distant parenchyma. That is the part which is played by revulsive treatment—Lister's counter-irritating plasters, cupping points, cauterisation, etc.

In these, as in his previous researches, Dr. Pétér employed only the ordinary clinical thermometer in daily use in hospitals. Dr. Decaisne, who analyses in the *Revue Médicale* the elaborate memoirs of Dr. Pétér, adds the personal researches of Dr. Vidal, of Hyères, which fully confirm the results of M. Pétér. He finds (*Bulletin de l'Académie*, vol. vii, No. 38) that as soon as a nucleus of tubercles commences evolution, a corresponding augmentation of temperature may be observed on the local surface of the skin. This disappears with the inflammatory period, whether that has been cut short or has given place to the destructive period. Indeed, according to this author, the rise in temperature of the skin corresponds so well to the internal inflammation, that it is possible to exactly draw in the thermometer the outlines of a cavity when the pericavernous tubercles in their turn enter upon evolution. When the local temperature rises, the pulse is always quickened. This is especially seen in galloping consumption. According to M. Vidal, the rise in temperature seems to be caused, not so much by the bulk of blood which flows towards an organ, as by the difficulty which the blood finds in returning from the periphery to the centre of circulation. It would seem that when-

ever the arterial blood is obstructed in its circulation through the capillaries, heat is given out.

KAUFMANN ON THE TREATMENT OF CANCER OF THE THYROID BODY.

DR. C. KAUFMANN of Berne, in the concluding section of an elaborate contribution on malignant struma—primary sarcoma and carcinoma of the thyroid body, gives the following instructions as to treatment (*Deutsche Zeitschrift für Chirurgie*, Band ii, Heft 5 and 6). Extirpation has been rarely performed, and, in most instances, with a fatal result. The attention of surgeons has, however, again been directed to this operation in consequence of the success that has recently attended its performance in two cases of cancer of the thyroid body under the care of Billroth. The prospects of recovery after such proceeding can never be regarded as favourable, but still the question of operative interference is usually considered in the presence of a certainly fatal affection of any superficial organ. Two operations have been proposed for the removal of cancer of the thyroid; scooping out of the growth—*evidement*, and extirpation. The former operation is applicable only to recent cases and those in which the morbid growth is not very extensive. The structure of the tumour must be soft and pulpy. *Evidement* is a much less dangerous and less difficult proceeding than extirpation. The success of the operation will depend, on the one hand, on the removal of the whole of the growth by sharp spoon and cautery, and, on the other hand, on the absence of any metastatic growths. When the cancerous growth is large and its structure firm, no operation short of total removal of the thyroid body can afford any chance of permanent relief. This operation, to be successful, must be performed at an early stage of the disease, since primary cancer of the thyroid body is speedily associated with metastatic deposits in other organs. These conditions being favourable, the operation is further indicated when there is no very extensive adhesion of the skin to the front of the diseased thyroid body, when the tumour rises during movements of deglutition, and so does not extend far towards the mediastinum, when the borders of the tumour are well defined, and when the whole mass is freely movable in all directions.

Unfortunately, it will always be very difficult to make out before operating whether there be any adherence or not of the tumour to muscles, large vessels, trachea, and œsophagus. Extirpation, even when performed under the most favourable conditions, must necessarily be a prolonged and tedious operation. The administration of an anæsthetic is usually attended with much difficulty in consequence of stenosis of the trachea, an almost constant result of malignant enlargement of the thyroid body. Whether in cases of isolated disease of one lobe the whole thyroid body, or merely the affected part, should be removed, would depend on circumstances, especially on the size of the portion of gland remaining free. The safer course would be total removal. Dr. Kaufmann is of opinion that the proceeding of extirpation, if applied at an early stage of the disease, and with attention to antiseptic measures, will, in future, have better results. In too many cases, however, of cancer of the thyroid body, the patient applies for relief at a late period, and

when the growth has attained a considerable size, and has contracted extensive adhesions to the skin in front of the neck, and to the trachea, œsophagus, and other important deep-seated structures. With extirpation, as with *évidement*, the chief element of success consists in submitting the patient to operative interference at the earliest possible period. The rule that applies to the management of other superficial malignant growths applies with still greater force to like disease of the thyroid body; the sooner the surgeon interferes the more easily will the operation be performed, and the more complete will be the cure.

When the disease is too far advanced to permit of any operation for its removal, the treatment should be directed to the relief of the effects of tracheal stenosis and of difficulty in deglutition, and to the reduction of profuse and exhausting discharges of pus from the ulcerated growth. The relief of the patient in a case of tracheal stenosis from the pressure of the enlarged thyroid body is usually attended with much difficulty, in consequence of displacement of the air-tube. The only operations that can be performed for opening this tube are crico-tracheotomy and inferior tracheotomy, and of these, the latter, when practicable, is to be preferred. The former may be attended with this disadvantage: the cannula being applied at the seat of the stenosis is liable to cause, through pressure, perforation of the wall of the trachea, and so to favour the penetration of portions of the malignant growth into the air-passages. When the cancerous thyroid body extends downwards to the root of the neck and cannot be dragged upwards, crico-tracheotomy is the only operation that can be performed. When, in consequence of the extent of the tumour, it is necessary, in order to reach the air-tube, to divide some portion of the diseased gland, this may be best done by the application of the thermo-cautery. The diseased structure can be divided with much less hæmorrhage and with greater rapidity by the application of this agent than by the use of the knife. When the wall of the trachea has been involved in the disease, tracheotomy may be attended with indirect changes, in consequence of some free portion of the soft cancerous structure being drawn into the cannula. The operation is indicated chiefly in those cases in which the respiratory disturbances have just commenced. It is very necessary to support the strength of the patient in cases of malignant struma. The obstruction to deglutition will necessitate the use of the œsophageal tube in feeding, and subsequently the use of clysters. A like danger to that attending the wearing of a tracheal cannula may follow the passage of a long tube into the stomach, the wall of the œsophagus may be perforated, and portions of cancerous growth penetrate into the alimentary canal.

The amount of suppuration may be reduced by removing from time to time ulcerated and gangrenous portions of the cancerous growth. This may be done by the use of the knife or sharp spoon, or by applying the actual cautery, and the raw surface should then be submitted to the action of a strong solution of chloride of zinc. By such treatment, rapid breaking down of the tumour, and consequent profuse discharge, may be controlled to a considerable degree.

W. JOHNSON SMITH.

ROHE ON THE SUCCESSFUL TREATMENT OF BALDNESS.

IN the *Atlanta Medical and Surgical Journal*, Dr. George H. Rohe writes on this widely interesting subject. Having been himself a sufferer from seborrhœa and consequent alopecia for six or seven years, the writer has, as may be supposed, tried a great many remedies with a view to its alleviation and cure. Arsenic internally, stimulating washes or oily applications, containing in the one case corrosive sublimate, in the other quinine or tannin, in still another some of the stimulating oils, were used with no appreciable effect, either on the formation of scales or the depilation. He writes: Finally, about two years ago, an item went the rounds of the medical journals to the effect that a French physician, whose name has escaped me, had found that the local use of a five per cent. solution of chloral hydrate was a sovereign remedy for the trouble under consideration. Rejoiced that at last I could appropriately shout "Eureka!" I began to use the chloral wash assiduously for about three months, following the directions given as accurately as possible. At the end of the three months the production of scales was more rapid and the fall of hair greater than ever. Disgusted with the failure of all the therapeutic measures which had been so highly lauded, I almost decided to let the affection take its own course, and run the risk of a shiny bald pate at thirty. About that time the second volume of Hebra's classical treatise on diseases of the skin* came to hand; and one of the first things I read was Kaposi's thorough article on alopecia. Impressed with the reasonableness of the views put forth by Kaposi, I determined to give his plan of treatment a trial, with the result of checking the fall of hair and diminishing the production of scales in a reasonable short space of time. I have since then recommended the plan in a considerable number of instances, and, when it has been faithfully carried out, with uniform success.

The success of the method depends upon the use of an agent which, while mildly stimulant, removes the scales and thoroughly cleanses the scalp. This agent is the German or French soft soap (green soap, *schmierseife*, *savon vert*) in alcoholic solution. This soap is now imported in large quantities, and prescribed daily by the dermatologists of Boston, New York, Baltimore, Philadelphia, and other cities. The soap, containing an excess of alkali, saponifies the fatty matter of the sebaceous secretion, and it is thus easily removed. The alcohol greatly assists this action, and seems also to have an alterative action—if such an indefinite term is excusable—on the glands. The two may be combined as follows:—

R. Saponis viridis (Germ.)

Alcoholis. āā. ʒij.

Solve, filtra, et adde ol. lavandulæ gtt. xx-xxx.

The oil of lavender is added to cover the disagreeable fishy odour of the soap. The above makes a very handsome orange or wine-coloured preparation, with a pleasant odour, to which the most fastidious will hardly object.

This is used as a shampoo every morning or evening, pouring one or two tablespoonfuls on the head. Upon the addition of water, and smart friction with the fingers, a copious lather is soon produced. After keeping up the shampooing process for four or five minutes, all the soap must be washed

* Hebra & Kaposi; *Hautkrankheiten*, 2 Band. Erlangen, 1876.

out of the hair by the free use of warm or cold water, and the hair thoroughly dried by means of gentle friction with a soft towel. The immediate effect experienced is a disagreeable feeling of tension of the scalp, as if it were stretched too tightly over the skull. To obviate this effect, and to keep the scalp from getting too dry, and thus, perhaps, set up a true pityriasis, it is necessary to follow up the shampooing with some fatty application, which may contain some mild stimulant, thus : castor oil, 1 part, to alcohol 3 or 4 parts, with a little oil of rosemary or cinnamon, or the elegant pomades and oils of Bazin and other manufacturers may be used. But the best, as well as the neatest preparation that I have employed for this purpose, is the hydro-carbon known in commerce as cosmoline. This is a product obtained from petroleum. It is entirely bland and unirritating ; never turns rancid, and is comparatively cheap. It may be obtained in the fluid form or as a soft solid.

This procedure, shampooing, drying the hair, and applying the greasy preparation, must be repeated daily for three or four weeks. In the course of that time it will be discovered that the production of scales and the falling of the hair has been very markedly decreased. It will then suffice to repeat it two or three times a week for a month or two longer, after which a good shampoo once a week will usually succeed in maintaining a permanent cure.

Most patients will be alarmed after using this method at first, because the hair comes out in greater quantity than before. This is due to the fact that a large number of hairs are dead and only retained in their follicles by the plugging of the sheath with the accumulated sebaceous matter. The patient should, therefore, always be prepared for this result, and the cause of the increased falling of the hair explained to him.

It is not necessary, though more convenient, to cut the hair short during the treatment. When the alopecia has lasted so long that the hair bulbs have become atrophied, nothing will restore the hair on those spots. Our endeavours must be directed to saving what remains. A prognosis favourable to the restoration of the hair must, therefore, be given with caution.

DR. LEVIS'S OPERATION FOR VARI- COCELE.

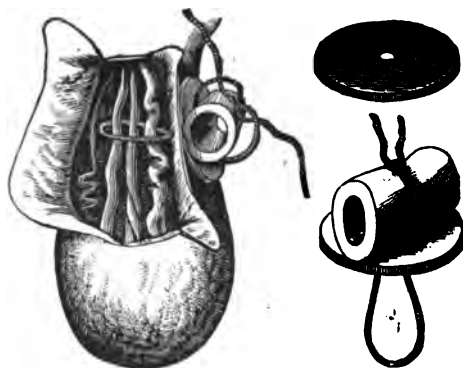
DR. LEVIS describes, in the *Philadelphia Medical and Surgical Reporter* for May 3, his method of treatment of varicocele by subcutaneous ligature, and the instrument which he employs.

He says, to perform this operation, you require a long straight needle, armed with a strong silk cord, a flattened disk which has a hole pierced through its centre, and a small piece of rubber tubing, or section of gum elastic. The disk may be of any substance which is convenient, as bone, hard rubber, or the like. But a disk which will answer just as well as any of these, can be made by taking a silver quarter of a dollar, or a circular piece of tin, and piercing a hole in its centre large enough to easily admit both strands of the ligature. A silver coin in which I had previously drilled a hole is what I employed the first time I performed this operation, and I have no reason to desire anything better.

It is always well to begin this operation with the patient in the erect posture, and finish it with him in the recumbent. The reason of this is, that in

examining the parts and transfixing, you want the vessels fully distended, but in tightening up the ligature no such fulness or distension is required. The tightening of the ligature should be done during anæsthesia, for this part of the operation is painful.

The mode of procedure is to enter the needle on the anterior and outside of the scrotum, near to the top of the mass of varicose veins ; then traverse the scrotum completely, so that the needle shall pass behind the veins and make its exit on the opposite side. Then re-enter the needle at the orifice of exit, and pass it in front of the veins and bring it out at the original point of entrance. Thus the veins are completely surrounded by the ligature. The ends of the ligature are now passed through the hole in the centre of the circular flattened disk, drawn tightly, and tied over the section of the rubber tubing. The rubber tubing should be large enough (say a half to three quarters of an inch in diameter) to allow of a certain amount of springing motion. If no elastic material be used, the ligature would do its work for a short



time just after being applied or tightened, and then it would be comparatively useless until such time as it was tightened again. But if the ligature be drawn down tightly over a section of rubber tubing, the gradual expansion keeps the ligature constantly tense and up to its work. Then, as the ligature remains, and is tightened from time to time, whenever the expansive power of the tubing is exhausted, it gradually cuts the vessels and so works its way out. Instead of the rubber tubing, a piece of ordinary erasing rubber, bent so as to act as a spring, may be substituted. The process ought to be completed in a week's time or less. If it is not, it is because the ligature has been neglected, and allowed to remain so lax that it could not do its work. It should be tightened every day, or the result will be needlessly delayed.

I introduced this operation several years ago, and have resorted to it without hesitation in both hospital and private practice, and have always found it very effectual. It is easy of performance, involves no especial danger, and is an operation upon which reliance may confidently be placed.

CASE OF ECHINOCOCCUS OF THE LIVER.*

THE subject of this case was a youth, aged 17. When first seen by Dr. Becker, on September 1, 1878, he had been unwell for about a fortnight with

* Read at the Allg. Aerzt. Ver. in Cologne, by Dr. Becker. *Berl. Klin. Woch.*, July 14, 1879.

general *malaise*, a feeling of heaviness in the limbs, and loss of appetite. He attributed his illness to a violent mental shock. Dr. Becker pronounced the case to be one of icterus without fever. The liver was very tender to pressure, but there were no spontaneous pains, the patient had nausea, vomited occasionally, had a great distaste for food, and drank very little. The bowels were constipated. The patient was treated with strong purgatives and small doses of acid. mur. for three weeks, during which his condition improved markedly, his skin was less jaundiced, the *faeces* became darker, and the urine assumed a lighter colour. The patient began to relish his food, and felt well enough to go out for a walk. On coming home he was seized with a severe chill. He was immediately put to bed, and hot drinks were given him to promote sweating, as his family thought he had taken cold during his walk. The next day Dr. Becker was called in, and found the patient again jaundiced, with moderate fever, temperature between 100.4 and 102.2, and frequent pains between the fifth and eighth ribs on both sides. The liver was very tender to pressure, and reached about one inch and a half below the edge of the ribs. The next day the patient complained of violent colics, which radiated from the right hypochondrium into the left, and presented all the symptoms of a gallstone colic. They lasted for six days, and were so violent that it was found necessary, in order to relieve the patient, to give him one or two injections of morphia daily. No gallstones could be detected in the colourless *faeces*. Quinine and purgatives were again freely given, and the patient was soon well enough to go away for a change of air for three weeks. After his return he resumed his scholastic studies for about four weeks, when a fresh attack of icterus and gallstone colics laid him up for a week. He soon got over this attack, and went back to school; but was sent home by his teacher on account of his bad looks. He then remained at home from November 25 till January 9, but was not seen by the writer till the last date. He was again jaundiced, The liver was smooth, and extended nearly to the *crista ilei*. It was very tender to the touch beneath the edges of the ribs, but this tenderness gradually decreased towards its lower rim. There were no attacks of colics, but the patient complained of a feeling of tension between the *scapulae*, and of *dyspnoea*. He had occasionally pains between the seventh and tenth ribs on both sides. From time to time he had rigors. He was much troubled by a dry cough, which disturbed him in his sleep, and by a frequent pain in the larynx, which seemed to be caused by speaking, swallowing, or if the part were touched in any way. During the following five weeks the temperature of the patient oscillated between 101.3 and 102.2 degs. in the morning, and between 102.2 and 104.5 degs. at night. The abdomen was prominent, especially in the upper parts, but there was no fluctuation to be felt. The lower extremities were atrophic. The diagnosis of this case presented considerable difficulties. It was evident from the repeated relapses that a catarrhal icterus could not be the cause of it, as had been previously assumed. Carcinoma or cirrhosis of the liver, or fatty or amyloid degeneration of this organ, were equally out of the question; so that there remained to be considered only two alternatives. The patient was suffering either from cholelithiasis or echinococcus of the liver. It was evident from the constant high temperature and the extreme state of prostration of the patient, that both affections

could only have resulted from suppuration. The whole course of the illness seemed to speak for cholelithiasis; the constant high temperature might be explained by assuming that a gallstone having been impacted in the duct, gave rise to inflammation, and to the formation of an abscess. There were, however, several circumstances which seemed to contradict this supposition. In the first place gallstones are rather an unusual occurrence at the patient's time of life, and in the second place such a considerable enlargement of the liver could not have been accounted for by regarding the case as one of cholelithiasis caused by suppuration. Thus to all probability the case could only be one of echinococcus hepatitis.

In the meantime, the patient having persistently refused all food, had grown so weak that his friends were in daily expectation of his death, although he had lived exclusively on champagne and Rhine wine. On the tenth of February, Dr. Becker was informed that the patient had passed in his motions several shreds of skin, which were about three fingers wide, and of a palm's length. Unfortunately the stool had been thrown away. Dr. Becker, suspecting these shreds to have formed part of an echinococcus sac which had burst, immediately gave strict orders that no stool should be thrown away without his having previously examined it. On the evening of the same day, he was shown a stool which contained about fifty sacs, varying in size from a Spanish nut to a walnut. The microscopic examination showed that his suspicions were correct; the peculiar structure of the sacs, as well as the presence of numerous hooklets, fully corroborated his diagnosis. The fact that no worms were discovered was in favour of the author's hypothesis, that a suppuration must have taken place, because it is well known that the worms are destroyed by the process, while the hooklets are more capable of resisting its influence. During the following ten days the patient constantly passed hydatids in his stools, till the average number reached about 500. At the same time his health seemed again to improve, the *faeces* and urine assumed their normal colouring, and he became ravenously hungry. Unfortunately this favourable state of things did not last long, the former prostrate condition again set in, aggravated by a troublesome cough, accompanied by retching and vomiting of tough, stringy mucus. On the evening of the 22nd of February, the patient informed his friends that he was going to die during the following night. This prediction was not fulfilled, but for the next forty-eight hours he lay motionless, more dead than alive, refusing to take either food or drink. He was with great difficulty prevailed upon to swallow a tablespoonful of punch, which was soon followed by a second, third, and so on. His friends were directed to let him have as much punch as he would take, and in two days he drank two whole bottles of essence of punch. On the evening of the 24th of February, he began to cough slightly at first, but the cough gradually became so violent that the patient was all but suffocated. He finally vomited about a teacupful of bile, in which were contained five echinococcus sacs, of the size of a walnut. In the course of the following four days, he repeatedly vomited similar sacs, till about fifty had been expectorated; some of them were of the size of a pigeon's egg. The stimulating treatment was kept up energetically, in spite of the patient's reluctance. The liver was still very much enlarged, but the other organs were normal. The pulse 120, small,

very soft. The urine was of a much lighter colour than before, and secreted copiously fæces, bile-coloured.

After the 28th of February, the patient's reluctance to take food increased more and more. He complained of feeling something sticking in his windpipe, about the middle of the sternum, which he could not cough up. He also said that he felt distinctly how the liquid nourishment which he took, did not pass this particular spot at once, but seemed to be arrested there by some obstacle before entering the stomach. In the night of March 2nd, the patient had a severe fit of coughing, during which he vomited first a considerable amount of mucus, then a couple of teaspoonfuls of greenish pus, mixed with streaks of blood and some black blood-clots, and finally three echinococcus sacs of the size of a Spanish nut. On being asked whether he thought the obstruction under the sternum had been removed by the vomiting, he denied it. It was evident that the last sacs had broken through one of the larger bronchi, but at the same time it was to be feared that perhaps a cluster of them, being unable to pass through the opening, had stuck there. No more echinococci were vomited, but the patient still complained of a severe pain under the sternum. He died of exhaustion on the 6th of March. It is to be regretted that permission was not given to open the body, as the necropsy would, without doubt, have revealed many interesting particulars.

As far as regards the etiology of this and similar cases, it is to be noticed that the patient had a dog, who was very fond of him. It has been proved by Küchenmeister, von Siebold, von Beneden, and Leuckhart, that the human echinococcus is merely another form of the *tænia echinococcus* of the dog. In the latter, the scolices are passed in great number through the anus, and produce a considerable irritation, which the animal endeavours to soothe by licking. It is easy to conceive how, by licking his master's face and mouth shortly afterwards, the scolices may penetrate into the stomach and intestinal tract, and thence through the bile-ducts into the liver.

MEDICINE.

RECENT PAPERS.

1. ARCHER.—Abdominal Cancer simulating Aneurism. (*Dublin Journ. of Med. Sci.*, 1879, 3 s., 67, 385-390.)
2. ANDREWS.—Early Indications of Insanity. (*Amer. Journ. Utica*, New York, 1878-9, xxxv, 487-502.)
3. ANGER.—Calculs et fistules biliaires cutanées. Extraction d'une centaine de calculs à travers la paroi abdominale. (*France Méd.*, Paris, 1879, xxvi, 241.)
4. BEGER.—On a Case of Secondary Acute Miliary Carcinoma of the Lungs. (*Deut. Arch. f. Klin. Med.*, xxiii, p. 357.)
5. BERGER and ROSENBACK.—On the Coincidence of *Tabes Dorsalis*, with Insufficiency of the Aortic Valves. (*Bresl. Aerat. Zeitschr.*, 1879, 1-70.)
6. BURDEL.—Cancer et Tubercle développés chez le même sujet. (*Bull. Acad. de Méd.*, Paris, 1879, 2 s., viii, 407-412.)
7. BAUTER.—A Case of Chorea, in which Death was caused by Cerebral Hemorrhage. (*Brain: Journ. of Neurol.*, 1879-1880, ii, 10-25.)
8. BOURNEVILLE.—De l'épilepsie partielle, contribution à l'étude des local. cérébr. (*Progrès Méd.*, Paris, 1879, vii, 299-301.)

9. BAUMLATT.—Zur Casuistik des Morbus Basedowii. (*Aerull. Intbl.*, Munchen, 1879, xxvi, 177-179.)
10. CORNIL.—La mort subite chez les gouteux. (*Journ. de Conn. Méd. Prat.*, Paris, 1879, 3 a., i, 99-101.)
11. ERB.—On a Case of Athetosis. (*Mem.*, Heft 5, 1879.)
12. ERSTEIN.—On Sounds and Bruits of the Heart and the Aorta, which can be heard at a certain distance from the patient.
13. FRAENKEL.—Zur Lehre von der putriden Pleuritis. (*Berl. Klin. Woch.*, 1879, xvi, 237, 255.)
14. FABER.—Des phénomènes nerveux consécutifs avec affections abdominales. (*Marseille Méd.*, 1879, 16, 193-204.)
15. GLAIX.—On a Case of Phlegmonous Gastritis.
16. GUENEAU DE MUSSY.—Considérations sur les endermoses ou affections herpétiques internes. (*France Méd.*, Paris, 1879, 26, 193, 201, 209.)
17. HOMOLLE.—De la tension intra-thoracique dans les épanchements pleuraux et de l'emploi du manomètre dans la thoracentèse. (*Rev. Mens. de Méd. et de Chir.*, Paris, 1879, iii, 81-126.)
18. KLOB.—Lymphgefäss thrombosen und Ectasien in den Lungen. (*Wien. Med. Bl.*, 1879, ii, 347-350.)
19. NIEDEN.—On Hyperpyrexia and Apyrexia caused by Lesions of the Cervical Marrow.
20. OSTERLOH.—On Menstruation. (*Jahresh. der Ges. f. Natur. Heilk.*, Dresden, 1877-78.)
21. PENKERT.—On a Case of Dislocation of the Cerebral Portion of the Spinal Column. (*Berl. Klin. Woch.*, No. 50, 1879.)
22. STRÜMPPELL.—On a Case showing peculiar Auscultatory and Gastric Phenomena. (*Ibid.*, No. 30, 1879.)
23. THIERSCH.—On Two Cases of Fracture of the Skull. (*Ibid.*, No. 30, 1879.)

4. *Beger on a Case of Secondary Acute Miliary Carcinoma of the Lungs.*—A girl, aged 20, who had hitherto always enjoyed good health, had been taken ill with colics and loss of appetite. She had never vomited, but noticed frequently that her motions were black. When received in the hospital at Leipzig she looked well, was very stout, and complained only of a painful spot in the epigastrium. Two days later she had a bloody stool and fever. Her temperature rose every night. Five days later she began to cough much, and to complain of pains in the chest while coughing; she expectorated a great deal of mucus; later on, pleuritic crepitation set in, with dyspnoea, cyanosis, wasting, pains in her chest. She died four weeks after entering the hospital. The diagnosis, *ulcus ventriculi* and miliary tuberculosis, had been made during her life-time. The *post mortem* examination, however, revealed carcinoma of the retro-gastric lymphoid glands, which had extended to the cardia and the left lobe of the liver, unelastic noduli in the retro-peritoneal glands, and in the glands which surround the root of the lungs; miliary carcinosis of the peritoneum and the pulmonary tissue. The lungs were studded with white nodules of varying size, which were partly isolated, partly in groups. A few bronchiectatic caverns were found in the apices of the lungs. The author thinks that the pleuritic crepitation which was heard during the patient's life was produced by the carcinomatous nodules rubbing against the pleura.

5. *Berger and Rosenbach on the Coincidence of Tabes Dorsalis with Insufficiency of the Aortic Valves.*—Drs. Berger and Rosenbach draw attention to the fact that they have observed seven cases of *tabes* complicated with considerable insufficiency

of the aortic valves. They do not draw any conclusions from their observations, but merely ask their colleagues to investigate more thoroughly any cases of tabes which may come under their notice, with a view of tracing any relations existing between the affections.

11. *Erb on a Case of Athetosis.*—At the meeting of German neurologists and psychologists in Heidelberg, Professor Erb presented a girl, aged 14, who from her fourth year had been suffering from athetosis. The fingers of the left-hand are slowly extended and closed, while the toes of her left foot execute similar movements. The muscles of her left arm are stiff, and do not obey the impulse of the will as well as the muscles of the right arm. There has never been any pain or paralysis in the affected limbs, and the child is perfectly healthy, with the exception of a slight tendency to scrofula. Professor Erb considers athetosis as a peculiar affection due to the lesion of one particular spot in the central organ.

12. *Ebstein on Sounds and Bruits of the Heart and the Aorta, which can be heard at a certain distance from the Patient.*—Professor Ebstein has published a summary of the few cases mentioned in medical literature in which bruits of the heart and thoracic aorta could be heard at a distance of half a mètre or a mètre from the patient. The author speaks first of the cases where the heart-sounds alone presented this peculiar phenomenon, then of those cases where bruits of the heart and the aorta could be heard at a considerable distance. As far as the latter are concerned, it is worthy of notice that both pericardial, as well as systolic and diastolic endocardial bruits, can be heard at any distance. Among the endocardial bruits, those which are caused by stricture of the atrium of the aorta are often heard at a distance, more especially so if they are owing to the formation of calcareous deposits on the semilunar valves. No case of disease of the bicuspid valves is recorded in literature where the bruit could be heard at some distance. The author then proceeds to give the history of a case which came under his own notice, where a very considerable stricture of the aorta was complicated with insufficiency and stricture of the mitral valve, and a systolic bruit could be heard at a distance of at least two mètres. He then goes on to investigate the question whether bruits which present all the characteristic phenomena of cardiac bruits, can be heard at a distance in cases where neither the heart nor any of the great vessels are affected. He quotes two cases where this peculiarity has been observed. One is that of Professor Baum in Göttingen, who is now 78 years old and perfectly strong and healthy, and who has never presented any symptoms which might lead to suspect that he was ever troubled with disease of the heart. It appears that this gentleman during three years, from 1854 to 1857, heard distinctly a sound, resembling that of a flute, which issued from his chest, and was synchronous with the heart-beat. The sound was particularly clear and distinct at night. Dr. Spiers, of Frankfort-on-the-Maine, is said to have observed the same sound in himself; it vanished after some time. Professor Baum had observed a similar phenomenon in a clergyman who was perfectly healthy. The sound could be heard day and night, but disappeared in the course of time.

15. *Glaix on a Case of Phlegmonous Gastritis.*—A workman, aged 52, was suddenly taken ill with rigors and violent vomiting, which lasted twenty-

four hours. He was of intemperate habits. When first seen by the author, he presented the following symptoms: he had lost much flesh, the abdomen was flat, hard, and very tender to pressure in the ventricular and ileocaecal region. The spleen and liver were much enlarged; temp. 104.5°; pulse 136; resp. 36. The patient was treated with quinine, application of ice to his head, and galvanisation of the neck once in two hours. On the following morning he was very restless, his extremities were cool and cyanotic, pulse 130, soft; resp. 34; temp. 102°. The secretion of urine was very scanty, but the bowels moved several times spontaneously. A hypodermic injection of Fowler's sol. and pure alcohol was made, upon which the pulse rose. He again collapsed at night, and died the next morning. At the *post mortem* examination, the following pathological changes were revealed in the abdomen. The abdominal cavity contained about 1000 grammes of a muddy, stringy fluid, which was mixed with shreds of mucous membrane. The blood-vessels of the peritoneum were much injected, the liver enlarged, and contained much fat. The spleen was enlarged to three times its size. The stomach also was enlarged, and contained a few ounces of a yellowish stringy fluid. The walls of the stomach were abnormally thick and soft and fluctuating to the touch. On being cut open, a whitish stringy liquid mixed with yellowish pus trickled from the sub-mucous cellular tissue. The walls of the stomach were filled with this liquid, the mucous membrane was pale, except in some places where it was very hyperæmic and ecchymosed; it was covered with a glassy, greyish slime. The diagnosis was made as phlegmonous idiopathic gastritis and general peritonitis. The author remarks that he has observed a second case of phlegmonous gastritis, which however could not be proved by the *post mortem* results, as the patient recovered. The etiology in this case was clear, as the patient had committed an imprudence in eating, which was immediately followed by the appearance of the disease. The patient vomited a considerable quantity of pus, whereupon the temperature sank. This naturally leads to the supposition that a sub-mucous abscess had burst.

19. *Nieden on Hyperpyrexia and Apyrexia caused by Lesions of the Cervical Marrow.*—Dr. Nieden reports the following three interesting cases:—Case 1, is that of a coachman, aged 60, who, by an unlucky fall from a ladder, had brought on luxation of the first dorsal and seventh cervical vertebræ, the spinal cord having been crushed in these parts. The head, neck, and upper extremities could be moved, but not without pain; both motility and sensibility were absent in the rest of the body, beginning at the third intercostal space. Ten hours after he had been brought to the hospital, the temperature sank to 95.1°; in the morning of the third day, it rose slowly to 98.6°, and sank again on the fourth day to 95.7°. During the night of the sixth day it fell, first to 90.1°, then to 87.9°; and on the eighth and ninth days to 84.3°. On the tenth day, on which he died, the temperature sank to 80.9°, and to 80.6°. The patient was fully conscious up to the last moment. This is the only time that such low temperatures have been observed in a man who had retained all his mental powers, and to some extent his motor powers. The second case, which presents very similar symptoms, is that of a man aged 23, who was suffering from rupture of the ligament between the sixth and seventh cervical vertebræ, fracture of the right transverse process of the seventh cervical vertebra, and

crushing of the cord. The temperature rose immediately after the accident had taken place; and four hours later it had reached 106.7°; ten hours later it was 109.4°; and at the patient's death, 109.8°. After death, the temperature rose slightly. A third patient, by falling on his head, fractured the third and fourth cervical vertebræ, and crushed the cord. All four extremities were paralysed, and the body was anæsthetic, beginning at the second intercostal space. The temperature, which had been at first 95.1°, sank to 94.5°, then to 89.6°; ten hours after the accident, it had again reached 94°, the patient having been all this time wrapped in blankets and surrounded with hot bottles. The temperature then continued to rise; thirteen and a half hours after the accident, it reached 98.8°, and nineteen and a half hours after the fall, when death ensued, it had attained 102.5°. It is interesting to observe in this case how at first the gradual sinking of the temperature was followed by a subsequent rise.

20. *Osterloh on Menstruation.*—Herr Osterloh has published a number of interesting particulars respecting menstruation. In one case, a woman menstruated for the first time after the birth of her child. In 3,188 women, menstruation set in at the age of 16½ years. Women who live in the country begin to menstruate later than women who live in towns. There seems, however, to be no difference as to the onset of the period in delicate or robust females. Fair-haired women menstruate at an earlier age than dark-haired, especially delicate fair-haired females; delicate dark-haired girls menstruate late. Two hundred and thirty-six women who, in their childhood, had been cachectic, menstruated for the first time at 17 years; 182 women who had begun to bear children at an advanced age, menstruated at the age of 18.41. The catamenial flow occurred at regular intervals in 2,074, or 64.45 per cent., out of 3,212 women; in 15 it occurred once in two weeks, in 263 once in three weeks, in 7 once in three weeks and a half, in 1,783 once in four weeks, in 2 once in five weeks; 277, or 8.63 per cent., were very irregular, the flow occurring at intervals varying from a few weeks to a year. In 683, or 21.26 per cent., it was irregular, but the intervals were shorter. In 112 the irregular flow became regular without any obvious cause. The catamenial flow lasted, in 2,080 cases, from one to five days; in 637, over five days; and the duration was irregular in 297 cases. In 232 women, the prodromal stage was accompanied by pain; 909 suffered from pains in the sacral region, the abdomen, and the head, during their period. The author, who is indebted for his material to the Lying-in Hospital in Dresden, concludes from his researches that menstruation is liable to be very irregular, and that, therefore, it ought not to be designed as "period"; but thinks that these irregularities are much in favour of the modern theory on the nature of menstruation.

21. *Penkert on a Case of Dislocation of the Cervical Portion of the Spinal Column.*—Dr. Penkert reports the history of a man, aged 75, who, after a fall, began to complain of pains in his neck, his right arm, and leg. He could not move his limbs easily. The sensibility was increased in the painful parts. If the cervical column were pressed, the patient felt a pain in the fourth and fifth processus spinus, and, on touching these parts, a peculiar grating sound could be heard. He could freely turn his head to the right and to the left. Later on, the bladder and rectum became paralysed, as well as the left leg.

The patient then fell ill with pneumonia, and, after recovering from it, the symptoms of paralysis gradually disappeared in the course of nine to twelve weeks. The author explains the symptoms which followed immediately upon the fall by assuming that the cervical cord was injured by the transitory dislocation of the column; the later symptoms are attributed to a hæmorrhage which took place into the cord, and to an inflammatory swelling of the ligaments.

22. *Strümpell on a Case showing peculiar Auscultatory and Percutatory Gastric Phenomena.*—At a meeting of the Medical Society of Leipzig, Herr Strümpell presented a patient with peculiar gastric phenomena. The patient enjoyed good health until her eleventh year, when she began to suffer occasionally from slight gastric disturbances, such as a feeling of pressure in the stomach after food, etc. About this time, the patient first began to manifest the peculiar gastric noises with which she is now troubled. A loud rolling noise is heard, loudest when the stomach is only half filled with food, which is isochronous with the respiration, consisting of two distinct parts, an inspiratory and expiratory one. When the patient holds her breath, the noise immediately ceases, and only a few isolated splashing sounds are heard by placing the ear directly over the stomach. If the stomach is empty, or the patient has been fasting for some time, the sounds can hardly be heard, but they appear again if liquid food is swallowed. If the stomach is filled with fluid food, the sounds become again weaker. They are very loud when the patient stands up or sits, and can at such times be heard all over the ward. When she lies in bed the sounds again grow weaker, and can only be heard by putting the ear close to the stomach. If the hand is placed over the gastric region while the noise is loudest, the rolling sound is felt very distinctly; it seems as if at every inspiration air were driven from the epigastric region downwards and towards the left, and then went back again. If the stomach is percussed about a hand-breadth below the left lower edge of the thorax, a full deep tympanitic sound is obtained during inspiration, which during expiration alters into a high tympanitic tone. The stomach appears on the whole slightly dilated. The other organs are healthy. It is almost impossible to give a satisfactory explanation of these phenomena. The sounds are evidently caused by the air being squeezed, by the moving of the diaphragm, from one space into another which contains water. During expiration, the air is sucked up and drawn back into the first space. It has been suggested that the stomach may have the hour-glass form, or that there may exist a partial gastric hernia.

23. *Thiersch on Two Cases of Fracture of the Skull.*—CASE 1. The patient, a railway conductor, had knocked his head against the arch of a bridge while the train was passing beneath it. He was taken to the hospital a few hours later. He was unconscious; pulse and respiration were normal. The fracture was on the vertex of the cranium, about 2 centimètres behind the coronary suture, across the sagittal suture, about 5 centimètres long and 2 broad. The wound was treated antiseptically and remained aseptic until the patient's death on the seventh day after the accident. In the course of the first 24 hours the temperature rose to 104° and the pulse to 160. The lower extremities and dorsal muscles were in a state of peculiar rigidity; at times the patient had trismus. As he frequently choked when

taking fluid food, he was fed by the œsophageal tube. He never regained consciousness, but remained in a state of somnolence, and once uttered the word water. During the last days of his life the rigidity of his muscles relaxed. The necropsy revealed a pneumonia caused by the presence of foreign bodies in the bronchi, which had been the cause of his death. Small apoplectic foci in a state of red degeneration were found in the cortical substance of the præcentral gyri, corresponding to the depression. Another focus of the size of a French bean, and in the same state of degeneration, was found in the temporal lobe; it went through the cortex into the white substance. No meningitis, no hæmorrhage in the meninges. The most remarkable points in this case are: 1. The high temperature during the first 24 hours, which was evidently due to the lesion of the brain; 2. Death being caused by the pneumonia, owing to the presence of the foreign bodies; 3. The relation between the motor disturbances and the lesion of the præcentral gyri, which corresponds with the results of Hitzig's experiments.—CASE 2 is that of an errand boy, aged 15, who fell down from a first floor window on the pavement. When seen one hour after the injury, he presented the following appearance: a depression of the size of a sixpennypiece could be felt in the right frontal bone; the skin over it was intact. From this depression radiated four fissures, two in the direction of the supraorbital ridge, one towards the coronary suture, and the last ran across the parietal bone into the mastoid region. The pieces were partly movable. The patient was quite unconscious. There was considerable epistaxis from both nostrils, convulsions of the left facial nerve, no paralysis, no sensory troubles; the pulse, respiration and temperature remained normal. He left the hospital after three months; his mental and bodily functions had remained unimpaired, with the exception of a slight paralysis of the facial nerve. The right anterior portion of the skull was much flattened. This happened last year. When seen again this year, a flat elevation could be seen and felt over the place where the depression had been; it pulsated isochronously with the radial pulse, and was surrounded by an osseous ridge. If the neighbourhood of this swelling is pressed down slightly, the pulsations become weaker without ceasing altogether. Pressing the swelling causes no brain symptoms. It was suggested that this swelling might be a meningocele, or a varix aneurismaticus.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

1. BAUDUY.—On Ergot and Sodium Bromide in Epilepsy. (*Cinc. Lanc. and Clinic.*)
2. BODENHAMER.—On Rectal Medication. (New York, W. Wood and Co., 27, Great James Street. 1878.)
3. CHANTREUIL.—On Injections of Ether and Alcohol in the Treatment of Anæmia of Puerperal Women. (*Un. Méd.*, July 15, 1879.)
4. DOBELL.—On how to stop a Cold. (*Mich. Med. News.*)
5. DRAKE.—On Infusion of Buckeye as a Remedy for Chronic Rheumatism. (*St. Louis Med. and Surg. Journ.*, April 1879.)
6. DUROZIEZ.—On the Alcoholic Preparations of Digitalis. (*Paris Méd.*, No. 10, July 1879.)
7. EMMET.—On the Use of Ergot.
8. HOWE.—On Injection of Linseed Oil in Chronic Cystitis. (*New York Med. Journ.*)
9. KELEMEN.—On the Diuretic Effects of Compressed Air in the Treatment of Pleuritic Purulent Exudations. (*Pest. Med. Chir. Presse*, 1879; and *Berl. Klin. Woch.*, No. 27, 1879.)
10. LEHNEBACH.—On the Use of Benzoate of Soda in Puerperal Fever. (*Allg. Med. Centr. Zeit.*, No. 55, 1879.)
11. MILLET.—On the Treatment of Wounds of the Joints with Powdered Aloes. (*Rev. Méd. Franç.*, No. 30, 1879.)
12. OFFENBERG.—On Curare in Hydrophobia. (*Allg. Med. Centr. Zeit.*, No. 57, 1879.)
13. ONORATO.—On a Case of Stenosis of the Eustachian Tube, with Hypertrophy of the Membrane of the Tympanum, and Chronic Catarrh, cured by Cold Water. (*Giorn. Internaz. delle Scienze Med.*, Fasc. 5, 1879.)
14. ORTILLE.—On Hypodermic Injections of Morphia in Dyspnoea caused by Albuminuria. (*Lyon Méd.*, No. 27, 1879.)
15. PETER.—On the Treatment of Cough in Tuberculosis. (*Bull. de Thérap.*, April 15, 1879.)
16. PUGIBERT and BAILEY.—On the Effects of Cold Baths in Cutaneous Hyperæmia and Syncope. (*Journ. de Thérap.*, July 10, 1879.)
17. REED.—On the Use of Iodine in Dry Asthma. (*St. Louis Clin. Rec.*)
18. RUMBOLD.—On Applications to the Pharynx in Scarlet Fever, Measles, and Diphtheria. (*St. Louis Med. and Surg. Journ.*, April 1879.)
19. SÉE.—On the Treatment of Cardiac Dyspnoea. (*Concours Méd.*, July 12, 1879.)
20. TEBAUT.—On Carbolic Acid in Malarial Disease.
21. VILLANI.—On the Use of Mineral Baths in Articular Rheumatism complicated with Heart Disease. (*Med. Cont.*, Giugno, 1879.)
22. WALLER.—On Abortive Treatment of Bubo. (*New Orleans Med. and Surg. Journ.*)
23. WYLIE.—Hydriodic Acid as a Substitute of Iodide of Potass. (*New York Med. Rec.*, May 10, 1879.)
24. ZUCCARELLI.—On the Treatment of Chronic Cystitis with Chlorate of Potass. (*Thèse de Paris*, 1879.)

1. *Bauduy on Ergot and Sodium Bromide in Epilepsy.*—Professor Bauduy reports a case of epilepsy of sixteen years' standing, which was cured by giving twenty grains of bromide of sodium with half a drachm of fluid extract of ergot three times a day. This treatment was continued a year and a half, and four years have elapsed without the recurrence of a fit.

2. *Bodenhamer on Rectal Medication.*—This essay is intended to draw more attention to the important subject of the administration of food and medicines by the rectum. The method is of great antiquity, and was commended by Hippocrates, Galen, and Celsus; but it has made little progress towards perfection, and the administration of enemata of any kind is often mischievously bungled by nurses, students, and even medical men. It is apparently forgotten that foreign substances introduced into the lower bowel are very apt to excite expulsive action, and that therefore extreme caution should be observed. The author recommends a screw syringe, which has the advantage that the enema cannot be suddenly shot into the rectum by a careless hand. Whatever instrument is used, the fluid should be gently passed in, and so slowly that the bowel may have time to accommodate itself to the presence of the enema. "After the administration of a medicated or nourishing enema, should there be a strong or irresistible desire to pass it—as is the case sometimes, when there exists an exquisitely irritable state

of the organ—a sponge or fold of cloth dipped in hot water, and firmly pressed against the anus for a while, will generally appease the desire and enable the patient to retain the enema." The author collects the opinions of some eminent men, and in the end lays down certain conclusions based upon the evidence quoted. He holds that a fuller and more rapid effect can be obtained in this way than by giving drugs by the mouth, and he points out that of narcotics the rectum only requires about one-third of the quantity necessary by the mouth. The book is a very interesting contribution to practical medicine.

3. *Chantreuil on Injections of Ether and Alcohol in the Treatment of Anæmia of Puerperal Women.*

—Dr. Chantreuil advises the injection of a dose of sulphuric ether, 4 grammes, into the subcutaneous cellular tissue in cases of placenta prævia, when abundant hæmorrhages have taken place and the woman is bloodless. A little later on, one or more similar injections of cognac will prove useful, as they bring the syncope to an end, and restore the normal temperature. Thus, if transfusion were found necessary, at least no time will have been lost.

4. *Dobell on How to Stop a Cold.*—Horace Dobell, in his little work on "Coughs, Colds, and Consumption", gives the following plan for stopping a cold. If employed sufficiently early it is said to be almost infallible:—1. Give five grains of scscarb. of ammonia and five minims of liquor morphine in an ounce of almond emulsion every three hours. 2. At night give jss. of liq. ammon. acetatis in a tumbler of cold water, after the patient has got into bed and been covered with several extra blankets. Cold water should be drunk freely during the night should the patient be thirsty. 3. In the morning the extra blankets should be removed, so as to allow the skin to cool down before getting up. 4. Let him get up as usual and take his usual diet, but continue the ammonia and morphia mixture every four hours. 5. At bed time the second night give a compound colocynth pill. No more than twelve doses of the mixture from the first to the last need be taken as a rule; but should the catarrh seem disposed to come back after leaving off the medicine for a day, another six doses may be taken and another pill. During the treatment the patient should live a little better than usual, and on leaving it off should take an extra glass of wine for a day or two.

5. *Drake on Infusion of Buckeye as a Remedy for Chronic Rheumatism.*—Dr. W. S. Drake had an inveterate case of chronic rheumatism cured by the patient bathing in an infusion of buckeye (*Æsculus Hippocastanum*). The patient had not walked for nearly two years, and had gone through the whole routine of rheumatic remedies. While treating a horse with infusion of buckeye, he found the swelling rapidly disappear from his hands. He then applied it to other joints, and received the same benefit.

6. *Duroziez on the Alcoholic Preparations of Digitalis.*—Dr. Duroziez, who has devoted himself entirely to the study of diseases of the heart, has recently published a very interesting paper on the abuses and dangers of digitalis. Trousseau, for instance, used to give 15 grammes of the powder of digitalis, which is very dangerous, as is also his diuretic wine, which was given in doses of from 30 to 100 grammes. The alcoholic tinct., which is given in doses from 20 to 60 drops, and which contains the crystallised digitaline, is a real poison if the highest dose is given; 10 centigrammes of the alcoholic extract cause vomiting, and 40 centigrammes pro-

duce acute delirium. It appears that the properties of the plant vary according to the place where it has been picked. It contains variable quantities of digitaline, a thing which ought to be well borne in mind, as many mistakes are made in this. In any case it would be better to prescribe the powder of digitalis only in small doses of 20 to 30 centigrammes, according to the age of the patient, the tincture in doses of 20 drops, and the alcoholic extract in doses of from 5 to 10 centigrammes. The best way to give it would be to prescribe digitaline in pills of 1 milligramme each. In this manner the physician is aware of what he does, and has it in his power to increase the dose only very gradually to 2 to 3 milligrammes. In spite of these precautions, the effects of the drug must be carefully watched, and cumulative doses avoided. As soon as the patient begins to complain of chills, nausea, or a considerable lowering of the pulse, the treatment must at once be suspended.

7. *Emmet on the Use of Ergot.*—Emmet, in his recent work on Gynæcology, says: "From the injudicious use of ergot in large quantities much harm has resulted, without the relation of cause and effect being recognised. But, as a rule, great benefit follows its use when administered in small and continual doses, with the view of acting on the coats of the vessels and of exciting only moderate contraction of the uterine tissue. Ergot should never be given in large doses until after the uterine canal has been dilated, and until it be found that the tumour projects sufficiently to warrant the belief that it may become pedunculated by uterine contraction. I have committed this error myself, and have likewise frequently observed it in the practice of others. Should a tumour be found buried in the uterine walls, or so situated that it cannot become pedunculated, large doses of ergot can certainly accomplish no good. But, on the contrary, if the uterus be thus excited to violent contraction without a purpose, as it were, an increased quantity of blood will naturally flow to the parts, often with the direct result of causing cellulitis, and even peritonitis. By thus setting up a new source of irritation we shall establish the most favourable condition for increasing the growth of the tumour."

8. *Howe on Injection of Linseed Oil in Chronic Cystitis.*—A man, aged 29 years, entered hospital December 23rd, suffering from cystitis of six months' standing. Micturition occurred every hour both day and night. The urine contained a large amount of urine and pus. The ordinary remedies were used without benefit, and finally Dr. Howe proposed to distend the bladder and keep it so as long as possible. The agent he used was linseed oil; eight ounces were used at each daily injection. After the treatment had been continued for a week, the cystitis improved. The pus and mucus disappeared. Micturition occurred only six times in twenty-four hours, and was unattended with pain. Another patient, aged 49 years, was admitted with cystitis of three months' standing. Urine contained both pus and mucus. Micturition was painful, and occurred eighteen times a day. The injections of linseed oil were used as in the previous case. After eight days the pain abated, and he was able to hold his urine for two hours; but at that time he had left the hospital, and has not reported since.

9. *Kelemen on the Diuretic Effects of Compressed Air in the Treatment of Pleuritic Purulent Exudations.*—Herr Kelemen reports a case of a pleuritic exudation on the left side of the thorax, which, after

lasting for eight months, was cured within two months by breathing compressed air. As the exudation decreased, the secretion of urine increased almost daily, although everything likely to have a diuretic effect was carefully avoided. The medium quantity of urine which was secreted daily before the treatment had been begun, was 1,291 cubic centimètres; it rose in the first week of the compressed air-cure to the average daily quantity of 1,939 cubic centimètres; in the second week, to 2,286; in the third, to 2,363; and so on till it reached the amount of 2,600 cubic centimètres. This treatment was continued for several weeks, and in order to facilitate the entrance of the air into the diseased lung, the patient was directed to lie on the healthy lung while breathing the compressed air. Very good results were obtained from the treatment, as was subsequently proved by testing the capacity of the lungs, by means of the spirometer, pneumotometer, etc. Eight days after the termination of the cure, the amount of urine had again sunk to 1,562 cubic centimètres. It cannot, therefore, be doubted that the breathing of compressed air in the pneumatic apparatus had a powerful diuretic effect, which is in harmony with Waldenburg's views concerning the effects of this treatment on the circulation: viz., the heart-beat becomes stronger, the quantity of blood contained in the aortic system is increased at the cost of the pulmonary system, and a greater quantity of blood flows into the capillaries of the aortic circulation. Whether, however, the absorption of the exudation is to be attributed to the increased diuresis, or to the effect of the pneumatic treatment, it is noteworthy in this case, that the treatment proved effective in a case of purulent exudation, a fact which has been hitherto doubted by Waldenburg.

10. *Lekniebach on the Use of Benzoate of Soda in Puerperal Fever.*—The author reports four cases of puerperal fever which were cured by the use of benzoate of soda. Two of the patients were primiparæ, the other two multiparæ. In both cases of the primiparæ, quinine was given in doses of one gramme, besides the benzoate of soda, as the temperature had risen to 105.8 degs. in the first day after the child's birth. It sank immediately to 100.4 degs. The patients took the quinine without any difficulty, and did not vomit it again, as had happened in one of the cases where it was given alone, without the benzoate of soda. The temperature remained normal. It appears that the author is not acquainted with the case reported by Professor Petersen of Kiel, where the life of a woman in puerperal fever was saved by large doses of quinine and benzoate of soda.

11. *Millet on the Treatment of Wounds of the Joints with Powdered Aloes.*—In this case the left index had been nearly torn off, and the exarticulated phalanges hung down like a dead body, only being attached to it by a strip of skin about 1 centimètre broad, and by the tendon of the flexor profundus. The method employed by M. Millet in treating this wound was a very simple one, and was attended by very good results. Remembering that wounds of the joint in the horse, even if a considerable amount of synovial fluid should be lost, are cured remarkably well by dressing them with powdered aloes, he resolved to try whether the same result might not be obtained in man, especially in a case of a small articulation. After having, therefore, put the torn off phalanges into their places, M. Millet put the mutilated finger on

a very small splint, which was only 10 centimètres long, 2 broad, so as not to interfere with the metacarpa-phalangeal articulation, the splint having previously been covered with a padded cushion. The wound was then thickly strewn with finely powdered aloes, and finally dressed with a narrow bandage without any lint or compresses. The patient was then sent to the hospital, where the surgeon consented to follow the same mode of treatment. This simple dressing was only renewed twice during a fortnight; there was no fever or any local inflammation; no pain; very little, if any, swelling of the wounded finger; and no suppuration worth mention. The wound cicatrised, and the finger has partially recovered its motility. There will be no ankylosis, and doubtless there will remain no traces of the accident if the patient takes care to exercise it daily. The author thinks that aloes ought to be reinstated in its old place among the topic remedies, as it fulfils two indications at the same time, viz., it promotes cicatrisation, and at the same time forms a complete dressing by excluding the air. The heat of the hand has the effect of conglomerating the powder, thereby covering the wound with a water- and air-tight layer. This is, perhaps, the reason why the violent pains of which the patient complained at first ceased almost immediately. Another advantage of this mode of dressing is that it is exceedingly simple and need not be renewed except at long intervals.

12. *Offenberg on Curare in Hydrophobia.*—Dr. Offenberg, of Munster, has lately treated with curare a woman who had been bitten by a mad dog. He did not confine himself to the usual small doses, but injected about 2 decigrammes of curare under her skin in the course of five hours. The patient was in a terrible state, and seemed on the point of being suffocated when the injections were made. After the first injection, the convulsions ceased suddenly. This was owing to the power which curare has of paralysing motion. After a short pause, however, the convulsions began again, and several additional injections had to be made. At last the effects of the curare became so powerful that the patient was in danger of dying of paralysis of the heart and the respiratory muscles, and could only be saved by artificial respiration. She then fell into a state of exhaustion and weakness, from which she recovered after a time, and became quite well.

13. *Onorato on a Case of Stenosis of the Eustachian Tube with Hypertrophy of the Membrane of the Tympanum and Chronic Catarrh cured by Cold Water.*—The author relates a case of stenosis of the eustachian caused by the spreading of a chronic catarrh of the pharynx. The patient, a youth aged 23, felt one day a slight pain in his left ear, which he attributed to rheumatism. It ceased after a few days. The following year it reappeared, and was accompanied by noises in the ear, which the patient compared to the humming of bees. This noise continued for several months, and was at times so strong that the patient's mind began to suffer under it. Sea-bathing gave temporary relief; but one day the noise reappeared stronger than ever. The whole pharmacopœia had been exhausted, and still there was no improvement. At last the author prescribed the following treatment: the patient was to shave his head, and every morning, when washing his face, to keep his head immersed in the basin for a few minutes. Then, after taking it out, he was himself to pour a pint of water on his occiput, taking

care to let the water run over his neck and ears. On the third day after undertaking this cure, the noise decreased, and continued to do so till about a fortnight later, when it ceased altogether. The left ear, which had been considerably affected during his sufferings, became quite strong again, and the patient benefited much by the treatment, which rendered him less liable to contract colds.

14. *Ortelle on Hypodermic Injections of Morphia in Dyspnœa caused by Albuminuria.*—Dr. Ortelle has obtained good results in cases of albuminuric dyspnœa, which were not complicated with pulmonary œdema or heart disease, by injecting hypodermically five milligrammes of morphia. In cases where the albuminuria has caused œdematous swellings, he recommends from 2 to 3 grammes per dose of infusion of jaborandi by the mouth, or to inject hypodermically 2 centigrammes of the chlorhydrate or nitrate of pilocarpine. If the patient is very weak and death seems imminent, a dose of from 1 to 2 milligrammes of phosphate of zinc is given to stimulate the nervous system.

15. *Pétér on the Treatment of Cough in Tuberculosis.*—The author is a strong advocate of the combination of opium and belladonna in treating the cough of tuberculous patients. He begins by giving 1 to 2 pills, containing each 1 centigramme of extract of thebaicum and 5 milligrammes of extract of belladonna. A mixture of equal parts of syrup of Tolu and syrup of turpentine diminishes the secretion and soothes the cough. M. Pétér thinks that the vomiting which often follows a fit of coughing is caused by a morbid hyperæsthesia of the stomach. The food which reaches the stomach irritates the gastric branches of the vagus nerve, and thereby causes both coughing and vomiting. In order to prevent this, he gives immediately before the meal some soothing drug, such as a drop of laudanum in a teaspoonful of water; or a solution of morphia (1 milligramme in a teaspoonful of water). The dyspepsia of tuberculous patients, which manifests itself by a feeling of heaviness in the stomach, is treated with hydrochloric acid (3 drops at the end of each meal in three spoonfuls of water). In cases of gastralgia, a small blister will be found useful. If it has no effect, a hypodermic injection of morphia must be given.

16. *Pugibert and Balley on the Effect of Cold Baths in Cutaneous Hyperæmia, and Syncope.*—Messrs. Pugibert and Balley, two army surgeons, have published an article on accidents which are liable to happen during bathing. One of these is a scarlatiniform flush, which is either limited to one member or diffused over the whole surface of the body, the individual often feeling quite well at the same time. A few moments later, however, he begins to shiver violently, becomes livid, and falls into a state of syncope which may become alarming. In a patient of Dr. Balley, the scarlatiniform-flush over the whole body attracted the attention of the doctor, who having read about such cases ordered him to come out of the water at once in order to prevent having a syncope in the bath. The soldier dressed himself, feeling well, and it was not until ten minutes later, when the detachment was going to start, that he fell into a faint, and his skin became livid and cold. No cases of death have been hitherto observed. The treatment consists in friction, hot drinks, stimulants, and alcohol. The scarlatiniform-flush is the symptom of a threatening syncope, which

would drown the bather if it overtook him in the water.

17. *Reed on the Use of Iodine in Dry Asthma.*—In cases of dry asthma, of constitutional character, without obvious exciting cause, Dr. C. A. L. Reed, of St. Louis recommends the following prescription:—R. Liqueur iodinii comp., f. 3j.; Mel., f. ʒij.; M. Sig. Teaspoonful every three hours. He finds that the use of this is promptly (after the third dose) followed by a restoration of the secretion, diminution in the frequency and severity of the paroxysms from the start, an improvement in the appetite, an increase in the tone and vigour of the general system, and a perceptible increase in the volume of the urine, without any change in its specific gravity.

18. *Rumbold on Applications to the Pharynx in Scarlet Fever, Measles, and Diphtheria.*—Dr. Thomas F. Rumbold, in a paper on this subject, describes the various forms of atomizers most appropriate to different cases, as well as the methods of procedure employed successfully by himself. A favourite formula for atomization is as follows: R. Vaseline, ʒij; glycerine, ʒij; acid, carbolic, ℥j.—M. This should be warmed before application. It is not unpleasant to the taste, and has a very soothing and agreeable effect. It should be applied once in from two to six hours.

19. *Sée on the Treatment of Cardiac Dyspnœa.*—Professor Sée says that in all cases of continuous cardiac dyspnœa he has found iodide of potassium answer very well, especially where the dyspnœic symptoms were combined with a lesion of the tissue of the heart. It is equally useful in valvular lesions. Even if the diagnostic error of mistaking a simple cardiac dyspnœa for true asthma should be committed, the use of iodide of potassium would not be followed by any evil results, as it is an exceedingly useful drug in asthma. The direct effect of iodine in such cases is the promotion or rather liquefaction of the bronchial secretion. This greatly facilitates respiration. The dose given by M. Sée is 1.25 grammes per day; this is gradually increased to from 2 to 3 grammes, and is made as follows:—R. Iodide of potassium, 10 grammes; Syr. cort. aurant, 200 grammes; two to 4 tablespoonfuls per day. Each spoonful must be dissolved in a tumbler of water. Patients suffering from heart disease take iodide of potassium very well—better than other patients. The following are the drawbacks of this drug:—1. Bleeding from the buccal mucous membrane, or bronchitis and hæmoptysis in tuberculous patients. (Phthisis is therefore a counter-indication for the use of iodide of potassium.) 2. Loss of flesh: in fat individuals this is to be regarded as a favourable symptom. 3. Loss of strength; in such cases the treatment must be suspended at once. 4. Loss of appetite. Opium may be added to iodine, in order to prevent the evil effects of iodine. R. Iodide of potass., 10 grammes; Syr. cort. aurant, 200 grammes; Extr. thebaic, 0.10 to 0.15 gramme. From 2 to 4 spoonfuls per day. For the extr. theb. the syr. diac. may be substituted (50 grammes). Opium is given here with a view of making the iodine more easily tolerated, and of diminishing the cough, which greatly inconveniences the patient. Another very useful combination is that of digitalis with iodine, as the one has a soothing influence on the dyspnœa by acting on the lungs, and the other increases the action of the heart and modifies the arterial tension. The following formula will be found to answer well: R. Julep gomm, 100 grammes; Iod. of potass, 2 grammes; Tinct. digit., g. 40; or the following

formula :—Extr. gent., 0.10 gramme; Pulv. fol. dig., 0.15 gramme. To take one pill three times daily, together with the sol. of iodine, which we have mentioned above. In cases where patients cannot take digitalis, chloral will be found to be a good substitute. Thus, *e.g.*, Julep gomm., 120 grammes; iod. of potass, 2 grammes; chloral-hydrate, 4 grammes. To be taken every two hours during the day.

20. *Tebault on Carbolic Acid in Malarial Disease.*—A strong plea for the value of carbolic acid in malarial disease is published from the pen of Dr. A. G. Tebault. He says: As a prophylactic, carbolic acid given in grain doses, at intervals of three to six hours, has, in my hands, yielded comparatively far happier results, even in cases where unmistakable prodroma of malarial fever were actually present. In experiments instituted during the past seven years, on my own person and others, feelings of lassitude, malaise, cutaneous torpors, disturbed sleep, furred tongue, nauseous taste, and anorexia, often gave way under this treatment within twenty-four hours; and a pulse hitherto jerking and irritable became calm and of the natural rhythm, while a soothingly pleasant sensation pervaded the system. No fever manifested itself in any of the cases; on the contrary, the person felt refreshed and buoyant. No other agent which I have employed has ever superseded carbolic acid as an apparent disinfectant of the malarious taint within the system; and this, after anxious thought on the subject for years, is to my mind the first glimmer of light that may lead to the discovery of means to act directly on the poison of fever.

21. *Villani on the Use of Mineral Baths in Articular Rheumatism complicated with Heart Disease.*—The following are the conclusions at which the author has arrived :—1. Endo-pericardial processes, which frequently occur in articular rheumatism, but which have not given rise to any valvular affections, are not a counter-indication to warm mineral baths. 2. Disease of the valves of the heart does not always counter-indicate baths. If the general condition of the patient is pretty good, the circulation has not been affected by the enlargement of the diseased valves, and it is evident that the rheumatism demands an energetic treatment, thermo-mineral baths may be given. 3. In cases where the inflammation of the endocardium has communicated itself to the myocardium, baths are prohibited. This condition is easily recognised by a frequent pulse, and a systolic murmur. 4. Baths are absolutely forbidden in cases of endocarditis with frequent chills, or of congestion of the spleen with pains in the corresponding region, in cases of vomiting, hæmaturia, albuminuria, atheromasia, frequent cerebral congestions, in dyspnoea, oedema, asystolia, hypersystolia, etc. 5. Chronic pericarditis with serous exudations is also excluded from baths. 6. In cases where thermo-mineral baths are indicated, the temperature of the water must not be higher than 73 to 77 degs., and duration of the bath not extend beyond 25 minutes. 7. In cases where the condition of the patient is such that a thermo-mineral treatment is clearly indicated, but where it would be dangerous to carry it out for reasons such as have been mentioned above, a sort of compromise must be effected, and the cure may be restricted to shower baths, mud baths, etc., excluding full baths.

22. *Waller on Abortive Treatment of Bubo.*—Dr. Waller, of Columbus, Texas, confirms the statement

of Dr. Taylor, U.S.A., made before the Texas Medical Association last spring, as to the efficacy of injecting carbolic acid with a hypodermic syringe into the centre of the bubo. He dissolves ten grains of carbolic acid in two of glycerine and six of water, and injects twenty-five minims of this. One injection is usually sufficient. The severe pain subsides within a few hours.

23. *Wylie on Hydriodic Acid as a Substitute for Iodide of Potassium.*—Dr. W. G. Wylie recommends this acid in the form of a solution in syrup, which can be made of the strength of forty minims dilute acid to the ounce. Two teaspoonfuls of this syrup constitute an average dose, which may be given in bronchitis, asthma, and chronic or subacute catarrhal disease with good effect. It is especially useful in those cases where the smallest dose of iodide of potassium causes iodism.

24. *Zuccarelli on the Treatment of Chronic Cystitis with Chlorate of Potassium.*—Dr. Zuccarelli regards chlorate of potassium as a very useful drug in cystitis. It is perfectly harmless, cheap, and easy to use. It is by no means an infallible drug, but it will always clear the turbid urine, soothe the pains, and stimulate the muscular contractions of the bladder. Even in cases where it does not induce a rapid and complete recovery, it will prove useful in affording the physician an opportunity of introducing a little variety into his treatment of cystitis. In some very serious cases, where the usual remedies had failed to afford relief, chlorate of potass has been known to give good results. It is administered in two different ways, *viz.*, by the mouth in very high doses, patients easily take 30 grammes of it or more, only the precaution must be observed of giving the salt at meal times. The other method consists in injecting it directly into the bladder, beginning with a weak solution of 1.100, and gradually increasing the dose.

PATHOLOGY.

RECENT PAPERS.

1. BROOKS.—Is Disease transmitted through the Spermatozoa? (*Toledo Med. and Surg. Journal*, 1879; iii, 169-178.)

2. BROWN-SÉQUARD.—Prolongation extraordinaire des principaux actes de la vie, après la cessation de la respiration. (*Arch. de Phys. Norm. et Path.*, Par., 1879, 2 s.; vi, 83-88.)

3. CORRIVEAUD.—Du chagrin considéré comme cause indirecte de la mort; observation d'un cas de pleurésie compliquée de chagrin. (*J. de Méd. de Bordeaux*, 1879; i, 416-428.)

4. DREYFOUS.—On the Pons Symptoms of Tuberculous Meningitis. (*Thèse de Paris*, 1879.)

5. EGLI-SINCLAIR.—On Fatty Embolus. (*Corresp. bl. f. Schweizer Aerate*, No. 6, 1879.)

6. FREY.—Contributions to the Study of Epidemic Cerebro-spinal Meningitis. (*Wien. Med. Presse*, No. 22, 1879.)

7. HOTTENIER.—Note sur certaines modifications dans la constitution histologique du pus en général et du muco-pus utérin en particulier à diverses périodes. (*Gaz. Méd. de Paris*, 1879, 6 s.; i, 205-207.)

8. JURAZ.—On Two Cases of Hæmorrhage into the Pharyngeal Mucous Membrane.

9. LITTLE.—The Complete Occlusion of the Vena Cava Inferior with Malignant Disease of the Liver. (*Trans. of Dublin Pathological Society*, Dec. 1878.)
10. LUDERITZ.—On a Case of Tumour of the Brain. (*Thüringer Aerzt. Corr. Bl.*, 1878, No. 1.)
11. LANGHAUS.—On Cavernous Tumour of the Bladder. (*Virchow's Arch.*, 75 Bd., Heft 2, p. 291.)
12. MARTIN.—On Anatomic-Pathological and Experimental Researches on the Tubercle. (*Paris*, 1879. O. Doin.)
13. SCHULTZE.—On a Case of Pseudo-Hypertrophic Muscular Atrophy.
14. SCHULTZE.—On a Peculiar Condition of the Spinal Cord in a Case of Myelitis. (*Memorab.*, Heft 5, 1879.)
15. STRAUSS.—On Erysipelatous Pneumonia. (*Bull. Gen. de Thérap.*, July 15, 1879.)
16. VULPIAN and STRAUSS.—On the Increase of Albuminoid Matter in the Saliva of Albuminuric Patients. (*Ibid.*)
17. WACKE.—Contributions to the Study of Delirium Tremens. (*Centrab.*, No. 25, 1879.)
18. WERNHER.—Contributions to the Pathology of Brain-Lesions. (*Deut. Zeitschr. f. Chir.*, x, p. 453.)

4. *Dreyfous on the Pons Symptoms of Tuberculous Meningitis.*—Tuberculous meningitis is a constant source of new researches and discoveries, both for the clinician as well as for the physiologist, in consequence of the variety of its symptoms and forms. More than one physician who has made diseases of children his speciality, has attempted to classify these different phenomena. Drs. Rendu and Landouzy, each from a different point of view, have in their remarkable theses endeavoured to carry this plan out for a certain number of symptoms. But it must not be forgotten that the facts which they have mentioned are in reality only exceptions, and do not form part of the classical image of the disease. In the immense majority of cases, tuberculous meningitis is meningitis of the basis of the brain; therefore symptoms which belong to a lesion, either of the convex part of the cortical substance, or of the nervous centres, cannot be said properly to be characteristic for meningitis tuberculosus. It appears from this, that the cause of the ordinary symptoms of the disease ought to be looked for in the region of the basis of the brain. This reflection has guided M. Dreyfous in his work on the symptomatology of tuberculous meningitis. After having summed up all that has been revealed by pathology and experimental physiology on the rôle and the functions of the pons, he has endeavoured to show in what way these discoveries may be utilised in explaining the facts which have been observed. He has studied successively the sensory troubles, hyperæsthesia, partial or general anæsthesia, hemianæsthesia, certain motor troubles, alternate hemiplegia, etc. The author draws attention to certain phenomena which, in some cases, simulate the movements of paralysis agitans; in other cases, epileptoid trembling, or even chorea. In one case, there was a perfectly rhythmic chorea, which closely resembled the natatory chorea of hysterical people. According to the author, these phenomena are owing to irritation of the pons caused by the tuberculous inflammation. M. Dreyfous's observation respecting the hydrocephalic scream is worthy of notice. Ever since Trousseau, the cerebral scream (Coindet's hydroencephalic scream) has been described as being peculiar, short, heartrending, "like the screaming of a person who is in great danger". Now this scream, as described by Trousseau, is very exceptional; Rilliet and Barthez

hardly mention it. The pathognomonic scream which Coindet speaks of is more like a sigh, or like a series of cries, according to Rilliet and Barthez, or a kind of groan. According to the author, this peculiar scream is very much like those which are uttered by animals in which the hemispheres have been removed but the pons has remained intact, and is quite different from the bulbous scream called by Vulpián reflex scream, which has been observed after the pons has been removed. In another portion of his work, M. Dreyfous speaks of the attitudes which are peculiar to patients with meningitis. It is well known that the pons is the centre of the normal attitude of the individual. After the microcephalon has been once destroyed, the animals remain motionless in any position in which they may be placed, and which they are incapable of modifying. If, however, the pons, instead of being removed, has been stimulated, there is still a tendency towards maintaining the same attitude, but it is an abnormal one; the animal rotates round an ideal axis or rolls about, and there is at the same time conjugate deviation of the head and eyes. M. Dreyfous has observed in a great number of meningitic patients a tendency to assume abnormal attitudes. He divides them into local and general attitudes. Among the former, the most important is the rotation of the head, with conjugate deviation of the eyes, which is rather a frequent phenomenon, judging from the fact that, out of twenty-one cases observed by the author, in nine cases there was deviation of the head, and in five of the eyes. The general attitudes are: the trigger attitude, the cerebellous attitude, and the pons attitude. The first is well known. M. Dreyfous ascribes it to affection of one of the peduncles of the brain. The cerebellous attitude has been thus described by Hughlings Jackson: the patient lies on his back, the legs and feet are stretched out, the forearms and wrists are bent backwards, the palm of the hand looks towards the anterior surface of the forearm. In the pons attitude, which has been described by M. Dreyfous, the lower extremities are extended, and form an obtuse angle with each other; the upper extremities are elevated vertically on both sides of the head in a parallel direction with the axis of the body; the palm of the hand is turned upwards. In some cases, the arms were perpendicular to the axis of the body; in one case, the arms were enlaced above the head. The author thinks that these different postures ought to be considered as phenomena belonging to the same order as the abnormal attitudes which have been observed in animals after stimulating the pons. He supports his opinion by an experiment made by Munck, and several experiments performed by himself upon dogs.

5. *Egli-Sinclair on Fatty Embolus.*—Fatty embolus was observed for the first time by Zenker in 1862; since then similar cases have come frequently under notice. For some time past, Flournoy has carefully examined all the bodies which were brought to the pathological institution of Strasburg, and has found that fatty embolus occurs in 10 per cent. of the cases. The causes of this affection may be briefly summed up as follows: crushing of fleshy parts of the body which contain much adipose tissue, lesions of the marrow of the bones, or inflammatory changes taking place in the latter (not acute osteomyelitis). In those cases which do not end fatally, the *vis à tergo* of the circulation carries the thrombi from the lungs into the region of the aorta, where it seems that secondary thrombi may remain for an

indefinite time without causing any disturbance, and are finally dissolved in the alkaline blood. The symptoms of fatty embolism may be described as follows: the patient begins suddenly to feel weak; respiration about 60; pulse small, very frequent; temperature high; crepitation, first in the bronchi, then in the trachea; dyspnoea frequently becomes orthopnoea; the lips are covered with a reddish froth; the face is first pale, and, later on, becomes cyanotic; the extremities are cool, the pupils contracted; the patient becomes somnolent, then comatose, and dies finally; in some cases vomiting and convulsions preceded death. This has often been observed after severe injuries of the bones. The treatment is the same as in oedema pulmonum. In 13 per cent. of the 140 cases which have been mentioned in pathological literature, death has been caused by fatty embolus.

6. *Frey on the Study of Epidemic Cerebro-Spinal Meningitis.*—Dr. Frey arrives at the following conclusions respecting the epidemic occurrence of cerebro-spinal meningitis. The outbreak of the affection is never accompanied by a prodromal stage. Children seem to be more liable to contract it than adults. It occurs both in plains and valleys and in mountainous countries. The disease begins with a severe chill, or a violent headache, the cervical muscles are contracted, the patient becomes delirious, has hallucinations, eclamptic fits, and opisthotonos. All these symptoms may appear at the onset of the illness, and continue for two or three days, if the patient has not succumbed in the course of the first few hours. At the end of the second or third day a remission occurs, the contractions of the cervical muscles and the headache cease, and the patient recovers consciousness gradually. This state lasts only for a few hours, when the former condition again sets in. In the course of the affection, remissions occur frequently, though they never assume a typical character. As far as the febrile movements are concerned they are entirely independent of the severity of the affection. Thus, in some cases the patient has been in a most dangerous condition, and yet the temperature has only been slightly raised. Other symptoms are: injection of the blood-vessels, of the conjunctiva, strabismus, oedema, hyperæsthesia of the skin, and consequently great restlessness. The thoracic and abdominal viscera are perfectly normal. In one case only the spleen has been found to be enlarged. The functions of the bowels are temporarily disturbed; no albumen in the urine. In two cases out of nine the author has observed skin eruptions—herpes in the corners of the mouth, and on the cheek, like the eruption in intermittent fever and pneumonia. In almost all cases there were hallucinations of hearing, and visual disturbances, photophobia, strabismus, diplopia, and amaurosis. The affection does not always terminate in death: in some cases the patients die within a few hours, in others they recover in the course of two or three weeks. Some die on the eighth day or sooner, while others are unable to leave their bed for eight to nine weeks or more, during which time they are both blind and deaf. These are the most hopeless cases, as far as the mental powers of the patients are concerned, for they are often subject to hallucinations, while at the same time their bodily weight increases, and there are no febrile symptoms. The question whether cerebro-spinal meningitis is contagious or not, has not yet been satisfactorily answered. In some cases, several individuals have been taken ill in the same house, while in others the patients were surrounded by a

numerous family all through their illness, and yet no other case occurred. The treatment consisted in cold applications to the head and neck, large doses of quinine and salicylic acid; but neither of these remedies gave very satisfactory results. In cases of great restlessness morphia injections afforded some relief. Cold packs seemed to lessen the extreme irritability of the skin. Acting upon the idea that perhaps better results could be achieved by promoting the absorption of the exudation, the author prescribed ointment of iodine and mercury to be rubbed into the neck, and gave large doses of iodide of potassium, but there are no records of the effect of this treatment.

8. *Juraz on Two Cases of Hæmorrhages into the Pharyngeal Mucous Membrane.*—Dr. Juraz reports two cases of spontaneous hæmorrhages into the mucous membrane of the pharynx. One case was that of a woman who was being faradised for paralysis of the cricoarytenoid muscles. The hæmorrhage took place in the left vocal cord; it was not preceded by any symptoms, and disappeared within a very short time, without leaving any trace. In the other case, the patient was suffering from ecchymosis of the palate and the buccal membrane. The hæmorrhage took place into the false left vocal cord. Neither were any symptoms observed in this case, and both the hæmorrhage and the ecchymoses vanished in the course of a fortnight under a tonic treatment.

9. *Little on Complete Occlusion of the Vena Cava Inferior with Malignant Disease of the Liver.*—This occurred in a man, aged 26. The duration of his illness was only three months. The veins of the trunk were much enlarged and varicose, particularly those occupying the front and the lateral axillary line. The blood in these coursed upwards. There was no ascites at first, but it appeared later. The urine was icteric. The inspection showed a much enlarged liver, due to many spherical masses of cancer; and the disease appears to have been a primary one of the liver. The inferior cava was quite obliterated in its passage through the liver for an inch of its course. The closure had taken place above the openings of the hepatic veins, and just before the vessel pierces the diaphragm, and in close proximity on each side were the largest cancerous tubercles. The anastomosis had been carried on in three principal systems. (1) The epigastric veins anastomosing with anterior intercostals and internal mammary. (2) The circumflex iliac veins anastomosing into the long thoracic. (3) By the enormous enlargement of the vena azygos, which was as large as the vena cava ought to have been. [Dr. Little alludes to the extreme rarity of pathological obliteration of the vena cava inferior, and states that he has only been able to discover one other case so complete as this. That may be so, but occlusion by clots and tumours is not by any means so very rare, and that they are not to be found in pathological literature must not be taken as evidence that they are rare. Like many other conditions, they are to be found recorded in the *post mortem* records of hospitals, but they have not got into print in any large number.—*Rep.*]

JAMES F. GOODHART, M.D.

10. *Luderitz on a Case of Tumour of the Brain.*—The following case is reported by Dr. Luderitz. A cachectic child, aged five years and a half, complained of prostration and severe headache. Its gait became uncertain, strabismus of the right eye and paralysis of the right facial nerve set in. The

speech became indistinct and lisping, and the patient could only swallow with difficulty. Finally, convulsions set in, and neuromyotonic inflammation of the right eye, with optic neuritis. Both legs and the right arm remained unaffected, but the left arm became finally paralysed. The *post mortem* examination revealed the presence of a large number of tubercles of different size in the various parts of the brain (cortex, corpus striatum, thalamus opticus, corpus restiform, floor of the fourth ventricle, cerebellum, etc.) A tubercle 8 millimètres long and 21 broad was situated in the pons; only a small portion of the surface of the latter had remained healthy. In spite of this growth, no symptoms of paralysis had been observed in the extremities, with the exception of the left arm. It appears from this fact that tumours which grow slowly stretch the nerve-fibres, but do not destroy their power of transmission.

11. *Langhaus on Cavernous Tumour of the Bladder.*—The following case is reported by Herr Langhaus. A shoemaker, aged 19, had been suffering for the last ten years from periodically recurring attacks of hæmaturia. The attack appeared generally in spring, or when the patient partook of food which did not agree with him, and lasted from eight to fourteen days. The last attack was brought on by excessive beer drinking. The patient lost an enormous quantity of blood and died of exhaustion after ten days. The *post mortem* examination revealed a considerable enlargement of the subserous veins on the vertex of the bladder, and of the hæmorrhoidal veins. The mucous and submucous membranes of the bladder had in several places degenerated into cavernous tissue. The most extensive of these degenerated patches occupied a space of from 3 to 4 centimètres, and was situated above the orifice of the left ureter. It was of a dark red colour, nearly rectangular in form, slightly raised and studded with nodules. The neighbouring vessels, especially the veins, were much enlarged. The upper layer of the mucous membrane had remained comparatively healthy, and communicated with the subjacent cavernous tissue by means of its vessels.

12. *Martin on Anatomico-Pathological and Experimental Researches on the Tubercle.*—This remarkable work, the author of which is one of the most distinguished pupils of Professor Ranvier, is divided into three parts. In the first part, the author studies the formation of the tuberculous granulation in the serous membranes, and particularly in the meshes of the epiploon. It appears from his researches, that the tubercle of the serous membranes is formed by an accumulation of white blood-corpuscles which leave the vessels by diapedesis, form infiltrations and conglomerations in the walls of the latter, and in this way give rise to the characteristic nodules. These nodules are at first situated under the endothelium, and M. Martin has proved that both sides of the tubercle are completely covered with endothelial cells. Later on, these cells take part in the inflammation, and they first begin to disappear in the centre of the tubercle, *i. e.*, in the place where the pathological growth is the thickest. The second part is devoted to pulmonary tuberculosis. After having briefly analysed the most recent foreign works on the pathological constitution of tuberculous granulation, M. Martin studies successively the lesions of the bronchi, the arteries, and the pulmonary veins of the walls of the alveoli and their capillaries. The characteristic symptoms of these different lesions are, a general proliferation of cells and a tendency to

obliteration; the lungs, which normally are full of cavities, exhibit a strong tendency to become a compact mass, which is at first sarcomatous, and, later on, becomes fibromatous. However, this process is generally interrupted at an early stage by caseous degeneration of the tubercles. M. Martin acknowledges two varieties of tubercles; the tubercle which consists of minute round cells, or the caseosarcomatous tubercle. In other words, this form of tubercle consists of a mass of embryonic cells which have infiltrated the pulmonary tissue, either in the neighbourhood of a bronchus, or mostly around the artery which is near the bronchus. The other form is that of the caseoepithelioid tubercle. It consists of a cheesy centre, a middle or epithelioid zone, which is studded with giant cells, and an external or embryonic zone. M. Martin does not think that the giant cells are a characteristic element of the tubercle, as they are absent in a large number of granulations. He is very much opposed to the German theory of local tuberculosis, which is mainly based on the part which the giant cells are supposed to take in the formation of tubercles. According to him, it is not possible to decide whether a certain growth is tuberculous or not by examining it through the microscope, but the general condition of the individual ought to be considered first; a tuberculous focus can only be developed in an individual who is of a tuberculous diathesis. The last chapter is devoted to an exhaustive historical and critical study of the various experiments which have been performed with regard to tuberculosis. All the works which have been published on the subject since Villemin's experiments are reviewed and carefully analysed, and a few experiments made by the author are added. But he does not think that any of these experiments have fully decided the question, as they have all arrived at quite opposite conclusions.

13. *Schultze on a Case of Pseudo-Hypertrophic Muscular Atrophy.*—Dr. Schultze reports a case of a boy, aged 13, who could neither walk nor stand well. The calves of his legs as well as the thighs were abnormally developed. The muscles of the thighs, the gluteal region, and the shoulders and upper arms, were soft and flabby. The muscles of the calves were more solid. The functions of all the named muscles were very feeble. The sensibility was normal; there were no tendon reflexes. At the necropsy, the spinal cord, the nerve-roots, and the peripheral nerve-trunks, were found unaltered, but the muscles had undergone fatty degeneration. This result distinctly proves that the pseudo-hypertrophy was due to a diseased condition of the muscles and not to a form of chronic poliomyelitis, which most modern authors regard as the cause of progressive muscular atrophy.

14. *Schultze on the Spinal Cord in a Case of Myelitis.*—At the meeting of the German psychologists and neurologists in Heidelberg, Dr. Schultze described a peculiar condition of the spinal cord of a man who had died of myelitis. The patient, an Italian workman, had been employed in the construction of a bridge. One day, after having worked for six hours under a pressure of three atmospheres, he fell ill with pains in his feet and paraplegia. Death ensued two and a half months later. The necropsy revealed spinal myelitis in the posterior portion of the cord, secondary degeneration of the latter, both upwards and downwards, but no hæmorrhage. In the diseased parts peculiar foci were found, consisting of mulberry-shaped bodies.

The author attributed this affection to the change in the atmospheric pressure.

15. *Strauss on Erysipelatous Pneumonia*.—At a recent meeting of the Société des Hôpitals in Paris, M. Strauss reported a case of erysipelas of the lungs and bronchi. The patient, a healthy strong-built man, aged 26, had entered the hospital on March 14th, 1879, with facial erysipelas. Previous history good. On the 20th, the erysipelas of the face was nearly gone, when suddenly the pharynx, tonsils and tongue were observed to be very red (pharyngeal and buccal erysipelas). On the 23rd, the fever and general symptoms had become much more intense. The patient complained of a slight pain in his right side; no rigors. He coughed a little; no laryngeal phenomena. Pneumonia of the base of the right lung was diagnosed. In less than four days the pneumonia had spread over the whole of the right lung, and, on the 28th, the patient died. The *post mortem* examination revealed some very important lesions of the respiratory apparatus; the mucous membrane of the larynx and the ary-epiglottic folds were of a normal colouring, which contrasted strongly with the purplish tint of the pharynx and the palate. The mucous membrane on the three upper rings of the trachea was also of a normal colour, but, beyond this, the whole of the trachea was of a deep scarlet hue, which extended over the whole of the large right bronchus and its branches. The left bronchus was again normal. The greater part of the right lung, viz., the entire middle lobe, two-thirds of the upper lobe, and the upper three-quarters of the lower lobe, had been transformed into a hepatized mass, the upper part of which was of a pinkish hue, the rest grey. On making a transverse section, a greyish seropurulent fluid oozed out. On microscopic examination, the fluid which was obtained by scraping the sections of the lung contained nothing but leucocytes; no fibrinous casts of the alveoli. Some portions of the lungs were carefully hardened, but, on making new sections, the alveoli were found to be filled with white blood corpuscles without a trace of fibrine. In discussing the histological changes in the tissue of the lungs which he had just described, M. Strauss said that it was evident that they were very similar to those histological changes which Vulpian, Steudner and Volkmann had described as the characteristic symptoms of cutaneous erysipelas. He thence concluded that the pneumonia which he had just observed exhibited certain clinical and histological peculiarities which distinguished it from other similar affections. The clinical characteristics were: the occurrence of pneumonia in an individual who was suffering from erysipelas of the face and throat, and had not caught cold; the peculiar way in which the affection began (no rigors, and only a slight pain in the side); the rapid progress of the affection. *Histological Characteristics*.—General grey hepatization, the leucocytes in the alveoli, no trace of fibrinous casts, analogy between the lesions which were observed in the present case and those which occur in cutaneous erysipelas. M. Strauss, therefore, thinks himself justified in asserting the existence of a peculiar form of pneumonia, to which he gives the name of erysipelatous pneumonia, and which was designated by the ancients erysipelas of the lungs.

16. *Vulpian and Strauss on the Increase of Albuminoid Matter in the Saliva of Albuminuric Patients*.—M. Vulpian has noticed that the saliva of individuals suffering from Bright's disease of the kidneys, and who were treated with injections of

chlorhydrate of pilocarpine, contained a greater quantity of substances which were precipitated by nitric acid and heat than the saliva of healthy people. He subsequently asked M. Strauss to investigate the matter in his hospital. M. Strauss arrived at the same results. M. Vulpian's patient was suffering from a compound renal disease, the symptoms exhibited being partly of parenchymatous, and partly of interstitial, nephritis. He had been suffering from it for some time. One of M. Strauss' patients was a man aged 40, who had entered the Hôpital Tenon for a parenchymatous nephritis, of about six months standing. His urine contained a considerable amount of albumen. Two subcutaneous injections of chlorhydrate of pilocarpine and one of nitrate of pilocarpine were given to the patient at intervals of several days between each injection. Each time M. Strauss noticed that by heating the saliva which had been secreted under the influence of pilocarpine, and adding to it a few drops of nitric acid, it became turbid. The mucus contained in the saliva had been first removed by treating it with acetic acid, and then filtering it. It was found that 1,000 grammes of the saliva contained 0.253 gramme of mucine, and 0.182 gramme of albuminous matter, which is precipitated by heat and nitric acid. Another patient on whom the same experiment was tried, and who had also albuminuria, was a man 41 years of age, suffering from insufficiency of the mitral valve. Two subcutaneous injections of pilocarpine, of 2 centigrammes of nitrate of pilocarpine each, were made at an interval of nine days. The saliva presented the same changes as recorded above, and was found to contain 0.45 gramme of mucine and 0.145 gramme of albumen in 1,000 grammes of filtered albumen. The saliva of a patient who was not affected with albuminuria was then tested in the same way, and contained 0.330 gramme of mucine and 0.50 gramme of albumen in 1,000 grammes of filtered saliva. It results from these experiments that, in patients affected with albuminuria, the saliva is liable to contain a greater amount of albuminoid matter than in the normal state. This interesting fact may perhaps be explained by assuming that the salivary glands are infiltrated by the serous elements of the œdema. If this should not prove to be true, the cause might perhaps be found in an alteration of the epithelium of the salivary glands, or in a modification of the albuminoid constituents of the blood or of the infiltrated fluids.

17. *Wäcke on Delirium Tremens*.—Dr. Wäcke having had ample opportunities of studying this affection, has arrived at the following conclusions:—1. Delirium tremens potatorum is always caused by an abuse of liquor, which has extended over a certain time. The outbreak of the delirium is generally due to some psychical or physical emotion, e.g., an epileptic fit or a state of intoxication. If the patient is much reduced in strength, or has had already repeated attacks of delirium, a slight cause may produce the attack. 2. The quantity of liquor which will cause delirium, or the length of time which precedes the outbreak of the affection, varies according to individuals, the climate, the race, and social position. Wine and beer act much more slowly in causing delirium than brandy. This is the reason why the affection is so commonly met with in countries where much brandy is consumed, as in Russia, America, etc. 3. Spirits distilled from potatoes seem to have a more deleterious effect than others, probably because they

contain so much alcohol of amyl. If the patient is in the habit of mixing different sorts of liquor, the affection is apt to break out at a much earlier period than if only one sort is taken. 4. Social and climatic conditions seem to exercise a considerable influence on the frequent occurrence of delirium tremens, as it is less frequently met with in wealthy countries. 5. The female sex is less exposed to delirium tremens than the male among the working classes; persons who are exposed to the vicissitudes of the weather, or who have much to do with spirits, e.g., innkeepers, waiters, etc., are more liable to contract it. It occurs most frequently in individuals between 30 and 50 years of age, especially between 35 and 40. The youngest patient was 18 years old. The greatest number of cases have come under notice late in the latter part of autumn and in summer. 5. In 5 per cent. of the cases, the affection is merely an abortive form of the disease; it might perhaps be regarded as a delirium tremens which has not gone beyond the prodromal stage. This slight form frequently, at a later period, develops into the genuine delirium tremens. In the female sex, this abortive form is met with as a rule, and the real delirium tremens only in very exceptional cases. 7. Another form of the affection, which is little known and very seldom met with, is the chronic delirium tremens. The author gives this name to a series of abortive paroxysms, which are preceded by an acute well-defined attack of delirium tremens. There are generally more or less lucid intervals between the attacks. This condition lasts for weeks or even months, and the prognosis is very bad. 8. The prodromal state generally extends over two to three days. The characteristic symptoms of delirium tremens are, among others, great thirst, an increased secretion of sweat, and more or less acute digestive troubles. 9. In one-third of the cases there was a slight febrile movement; the temperature, however, did not go beyond 100.6 degrees. A high temperature would be a symptom of some internal inflammatory process. The febrile movement does not occur during the prodromal stage, and as a rule only on the first day of the actual delirium. The author explains it as a mere rising of the physiological exacerbation of temperature which occurs at night. The pulse and the respiration were normal. 10. In 82 per cent. of the cases there was albuminuria (renal and cardiac affections excepted). In one-fourth of these cases this transitory albuminuria was complicated with fever. The albumen increased in proportion as the temperature rose; but not in proportion with the delirium. It generally vanished as soon as the paroxysms were over. It appears from some chemical tests that an exceedingly small amount of phosphates is excreted at first, and that it gradually increases during the course of delirium tremens. 11. The hallucinations are mostly illusions of sight and hearing; occasionally the taste and tactile perception are also affected. The patient is in a state of profound depression; he is surrounded by phantoms which persecute him. In one-third of the cases the patients had visions of animals, and contrary to the usual assertion, they saw large animals, not merely small ones. The visions vary very often, so does the patient's state of mind. 12. All the symptoms of the affection exacerbate at night; even after a good night's rest they are apt to recur. 13. The death-rate from delirium tremens varies very much. The first paroxysm is, as a rule, the most dangerous one. In no case has the *post mortem* examination revealed any peculiar changes in the body. 14. Narcotics, if

given at the onset of the affection in moderate doses, seem to shorten its duration, and to render it less violent. Three to five grammes of chloral given in two doses, generally induced sleep; the dose had often to be repeated. Straight jackets, straps, etc., ought never to be used, as they are apt to produce hallucinations. In cases where the patient is likely to be very violent, the author advises that he should be shut up in a warm padded room by himself, and be dressed in untearable garments.

18. *Wernher on the Pathology of Brain-Lesions.*—The author reports a case of lesion of the right frontal lobe. The patient had been struck on the head by a stone in an explosion of dynamite with such force that the skull had been fractured on the right side of the head across the middle of the fossa Sylvii. The arteria meningea media had been divided, the inner vitreous table was detached from the subjacent layer, and had a depression of the size of a half-crown piece. The dura mater was not perforated, only slightly scratched. The patient died on the sixth day. The *post mortem* examination revealed a number of flat purulent foci on the arachnoidea in the right hemisphere; they varied in size, the biggest being as large as a half-crown piece; the part of the brain underneath the foci was hyperæmic and softened. A few apoplectic sugillations were found on the edges of the gyri, especially of the central ones which are in the neighbourhood of the fossa Sylvii. The brain was hyperæmic and oedematous, the ventricles contained but little fluid. The cerebral symptoms had first appeared after thirty-six hours. The patient had been in a dying condition during the two last days. In the first stage of his illness, the predominant symptoms were slight traces of aphasia, and twitching movements of the muscles of the left side of the mouth, the fingers of the left hand and the toes of the left foot; there was no paralysis. In the second stage, the left arm was paralysed; the convulsions became more violent, and were finally restricted to the right fore-arm. The temperature was very high, the patient was restless, threw himself about a great deal, though somnolent.

SURGERY.

RECENT PAPERS.

1. BARWELL.—Clinical Remarks on a Painless Method of Excising the whole Tongue. (*Lancet*, 1879, i, 549.)
2. BAZY.—Corps étrangers organiques de la bourse séreuse sous-cutanée du grand trochanter, opération, guérison. (*Courrier Méd.*, Paris, 1879, xxix, 98-100.)
3. BRACHET.—Sur une nouvelle dénomination d'hystéro-arthritis, arthrite blénorrhagique de la femme. (*Jour. de Méd. et Chir. Prat.*, Paris, 1879, 213-216.)
4. CZERNY.—On the Surgical Treatment of Nervous Affections. (*Mem.*, Heft 5, 1879.)
5. CULOT.—De l'inflammation de la moelle des os. (*Gaz. hebdomadaire de Méd.*, Paris, 1879, 2 s., xvi, 236-238.)
6. CZERNY.—Zur Laparospentomie. (*Wien Med. Woch.*, 1879, xxix, 367, 395, 457.)
7. DUBRUEIL.—Les amputations des membres avec le thermo-cautère. (*Bull. et Mem. Soc. de Chir. de Paris*, 1879, v, 136-142.)
8. DAWSON.—Two Cases of Fracture of the Leg, treated with the Bavarian Dressing. (*Hosp. Gaz.*, N. Y., 1879 80, vi, 182-185.)

9. DUNCAN.—Pain as a Symptom of Fracture. (*Edin. Med. Journ.*, 1878-9, xxiv, 966-971.)
10. GEMMEL.—On a Case of Fracture of the Vertebral Arch of the Fourth Lumbar Vertebra. (*Allg. Med. Cent. Zeit.*, No. 52, June 28, 1879.)
11. GIBNEY.—On the Management of Bow Legs. (*Maryland Med. Journal*, Baltimore, 1879, v, 15-21.)
12. GILLETTE.—Deux faits d'ostéite multiépiphysaire. (*L'Union Méd.*, 1879, xxvii, 618-620.)
13. HAHN.—On two Cases of Infectious Osteomyelitis. (*Med. Chir. Centrbl.* No. 22, 1879.)
14. HELMUTH.—Excision of the Rectum. (*Am. Obs.*, Detroit, 1879, vi, 133-219.)
15. KUMAR.—On the Treatment of Varicocele. (*Jahresber. de K. K. Krankenhäuses*, Wieden.)
16. KÖNIG.—Clinical Studies and Observations from the Surgical Clinic in Göttingen from 1875 to 1877.
17. LOSSEN.—Zur Casuistik der Laparotomien. (*Berl. Klin. Woch.*, 1879, xvi, 211-213.)
18. PERRIN.—Sur la valeur comparative du pansement de Lister et du pansement alcoolique. (*Bull. et Mém. Soc. de Chir. de Paris*, 1879, v, 153-169.)
19. PILCHER.—Remarks upon the Operative Treatment of Genu Valgum. (*Proc. M. Soc. County Kings.*, Brooklyn, 1879-80, iv, 127-131.)
20. ROSE.—On the Surgical Treatment of Carcinomatous Struma. (*Langenbeck's Archiv*, xxiii, p. 1.)
21. WEINLECHNER.—On the Reproduction of the Tibia after Osteomyelitis. (*Allg. Wien. Med. Zeit.*, No. 24, 1879.)
22. ZWEIFEL.—Catgut as a Source of Infection. (*Centrbl. f. Chir.*, No. 12, 1879.)

4. Czerny on the Surgical Treatment of Nervous Affections.—At the recent meeting of German psychologists and neurologists in Heidelberg, Professor Czerny spoke at some length on several cases of nervous affections which had been cured by surgical operations. He presented two patients on whom he had performed resection of the second branch of the trifacial nerve in the pterygopalatine fossa for severe neuralgia. He also showed a myxosarcoma of unusual size, which had sprung from the fascia of the sciatic nerve. It had been situated on the posterior part of the thigh. After removing it, it was found that the sciatic nerve had been reduced by the pressure to a mere thread, so that the leg was entirely paralysed. The patient, however, was soon able to walk pretty well. In the case of a lady, who had for a long time suffered from neuralgia in the foot, Professor Czerny performed resection of the first digital nerve. At the operation it was discovered that a growth of the size of a French bean, which was situated on the inner margin of the foot, was connected with the nerve. The patient recovered. The professor has performed nerve-stretching six times, with varying results. He has arrived at the following conclusions with regard to it. This operation is an excellent means of reducing the conducting function in a nerve. It ought, therefore, to be performed in cases where the conducting function of a motor nerve is too much excited. In sensory nerves resection is preferable.

10. Gemmel on a Case of Fracture of the Vertebral Arch of the Fourth Lumbar Vertebra.—In this case the patient, a workman, had fallen from a height of fifty-three feet through the giving way of a scaffolding. When first seen, he was in a state of imminent collapse, so that it was thought advisable to put off the examination till the next day. In the meantime, wine and camphor were given. At the examination, the patient complained of pain in the region of the fourth lumbar vertebra, the tuber ischii, and the right tibia, about six centimètres below the

knee. He was not able to move his legs. He had not micturated since his accident, neither had his bowels been moved. The skin over the painful spots showed numerous wounds, which were partly superficial, partly profound, especially on the right tibia, and seemed to have been caused by falling bricks. The processus spinalis of the spinal column was painful to pressure, especially in the region of the fourth lumbar vertebra. The spinal process of this vertebra was dislocated; pressure on the muscles of the back to the right of the processus was very painful; crepitation could not be distinctly heard. The patient could only lie on the left side; the bladder was full, and the urine had to be drawn off by means of a catheter. The patient said afterwards that he had not felt the catheter when it was introduced into the urethra. Cutaneous sensibility of the right leg was absent, the sensibility of the left leg was much weakened. Both legs were powerless, though the muscles of the left extremity could be made to contract by a strong faradic current. The internal organs were normal. *Treatment.*—Extension of the spine. Application of ice to the affected part. Clysmata. Stimulating medicines. The next day the patient was able to move the toes of the left leg; sensibility was also partly restored. The bladder and rectum were still paralysed, so that the patient passed his motions in bed. He objected to the extension of the spine, as it caused too much pain. He was treated with the faradic current, one pole being applied above the injured spot, and the other moved along the muscles of the legs. Three weeks later he could move the left leg freely; he was conscious of being touched with a pin, but could not say whether the point or the head had been applied to him. The right leg and foot were anæsthetic, with the exception of the inner side of the thigh and fore leg, the anterior surface of the thigh and the tibia, the big, second, and third toes. The patient could move his legs, but not without great exertions. The bladder and rectum were still paralysed; the urine had a strong ammoniacal odour, and left a muddy sediment. The pain in the spine was so great that the patient could only sit up by resting his body on both arms. The treatment consisted in the application of the electric current, both as before and to the bladder. Thirty-one days later the bladder and rectum were still paralysed. The cystitis had disappeared. The bowels never moved without an enema in spite of the faradisation of the rectum. The patient passed his urine and fæces in bed. He could sit up without pain. The right leg could be freely moved, with the exception of the foot. Twenty-seven days later the patient could walk with the aid of a stick. His state was much the same as before. The skin was anæsthetic in the right gluteal region near the anus, on the planta pedis, the region of the musculus peroneus, and the external portion of the thigh. He complained of a sensation of numbness in both legs and feet, saying, "I feel as if my legs were covered with thick woollen stockings". The temperature was raised on the injured leg. When told to walk, he complained of a feeling of weakness in the knees, which bent under him. His gait presented the characteristic symptoms of tabes dorsalis. He kept looking straight before him, threw his legs about and raised them without removing them from the floor. He walked with his legs wide apart. When attempting to stand, his knees bent under him. If told to put his feet together, set his stick aside, and close his eyes, he began to vacillate, and

ended by falling forwards. He was unable to turn round briskly. The patient was dismissed after a stay of seven months in the hospital. His condition had remained much the same, with the exception that the temperature of the injured leg was lower than that of the other extremity. The following are the noteworthy points in this case: 1. The rarity of fracture of a vertebra; 2. The permanent paralysis of the bladder and rectum; 3. The sensory disturbances of the rectum, anal region, right gluteal region, bladder, and urethra; 4. The circumstance that the affection assumed the characteristic appearance of *tabes dorsalis*; 5. The feeling of numbness in the right *planta pedis*, which region was also anæsthetic. The patient had always enjoyed good health before his accident, and the family history was good.

11. *Gibney on the Management of Bow Legs*.—Dr. V. P. Gibney mentions the following means for the redressing of bow legs:—1. Constitutional measures and delays in attempts at standing or walking make up the principal factors in prophylaxis. 2. The mother's thumb and forcible straightening, with or without an anæsthetic, constitute the methods to be employed while the bones yet possess the quality of springiness. 3. Mechanical appliances are to meet the indications for continuous pressure, elastic or non-elastic, in such cases where the mother's thumb or springing is inoperative, or may be used in combination with the springing. 4. Osteotomy and osteoclasia for such cases as have passed the fourth or fifth year.

13. *Hahn on Infectious Osteomyelitis*.—Two cases are recorded. The first is that of a soldier who was received into the hospital on January 7th for a small superficial wound on the back of the left foot. The foot was slightly swollen. The treatment consisted in the application of wet compresses to the wound, which healed towards the middle of the month. On January 15th, the patient began to complain of violent pains in the left thigh, which were at first attributed to articular rheumatism, and treated with salicylic acid, but a periostitis was diagnosed on January 18th. On the 30th, an incision was made in the middle of the thigh, and a large quantity of pus escaped. The wound was then dressed with antiseptic precautions, and, during a few days, the temperature remained normal, when evening exacerbations again set in without any apparent cause, as the quantity of pus had considerably diminished, and the cavity had become smaller. In spite of all precautions, a large bed sore formed on the sacral bone and the left trochanter major, where it communicated with the abscess. On Feb. 25th, an abscess being opened below the trochanter, the periosteum was found to be detached from the femoral bone to a considerable extent. The secretion became purulent, and the temperature rose at night to 39 or 40 degs. The patient died soon after from prostration. At the *post mortem* examination, the following pathological changes were revealed. The art. prof. fem. which passed through the large abscess was eroded. The abscess surrounded the upper half of the femoral bone, the latter being fractured above the trochanter major. Above and beneath this place the bone was studded with exostoses. Both the *caput femoris* and the *acetabulum* were necrotic. The infection appears in this case to have spread from the small wound on the back of the foot, which had healed without presenting any particular symptoms. In the other case, a small superficial abscess on the middle finger of the right hand was the source of infection, which led to osteomy-

elitis of the right scapula. The affection became manifest on April 1st, and the patient died on the 16th of the same month.

15. *Kumar on the Treatment of Varicocele*.—The following case, which was treated according to Schede's method of compressing the vein, is published in the *Jahresber.* of the K. K. Krankenhäuser, Wieden. The patient had been suffering for ten years from a considerable varicocele on the left side of the scrotum; the swelling had rapidly increased in size during the last three years, through blenorrhœa of the urethra and consecutive cystitis. The usual remedies had been used in vain. The patient complained of constant pain in the testicle, along the spermatic cord and in the back, especially if he attempted to stand upright for some time. The testicle had become slightly atrophic, and the patient's mind began to be affected by his condition. In April last, he began to experience a difficulty in moving his lower extremities, especially the left, and was so alarmed by his condition that he insisted on an operation. Accordingly, three middle-sized catgut ligatures were passed beneath the plexus of spermatic veins, leaving a space of about two centimetres between the ligatures, and tied over a thick drainage tube. The wound was dressed antiseptically, and an ice-bag applied. No bad complication set in, and the only inconvenience experienced by the patient was a moderate swelling of the scrotum on the side which had been operated upon, owing to the ligature, and twice a slight rising of the temperature. The ligatures were removed in forty-eight hours; the turgescens plexus had become a hard smooth tumour, which gradually grew smaller and harder, till it had dwindled down to a cord of the size of a finger, which was not tender to pressure. The patient has remained well.

16. *Clinical Studies and Observations from the Surgical Clinic in Göttingen, from 1875 to 1877*.—A. *König on the Temperature of the Body in Granular Purulent Inflammation of the Joints*.—In cases of true granular synovitis, the temperature does not, as a rule, rise abnormally, except occasionally for a day or so, if the limb has been exposed to injurious influences. If, however, the temperature remains irregular for some time, and no other complication is present, the irregularity can only be attributed to the formation of an abscess within the fungous granulations. The following are the characteristic phenomena of the irregular temperature curve. 1. The rise of the temperature is not considerable as a rule, and does not go beyond 100.4° at night; 2. The temperature is very high in the morning; 3. The morning temperature seems to remain permanently elevated in cases where the granulations are undergoing extensive necrotic degeneration; 4. As a rule all these changes last for several days.—B. *König on Antiseptic Treatment in Infectious Suppurations and Septic Wounds*.—a. *The Treatment of Purulent Phlegmons of the Sheaths of the Muscles and Tendons of the Hand and Forearm*.—If the parts are much swollen on the patient's entering the hospital, they are kept for some time in an elevated position in order to diminish the œdematous swelling and make the examination more easy. Then, with antiseptic precautions, the suppurating sheaths, bursal mucosæ, etc., are incised, and carefully washed out with a 5 per cent. solution of carbolic acid, which is applied by means of a syringe and a plug of cotton-wool soaked in the solution. This treatment not only arrests the fever and suppuration, but also prevents the necrotisation of the sheaths as well as the

inflammatory infiltration of the latter, and of the surrounding tissues. In other cases of fistular abscesses of the sheaths of the tendons and the intermuscular spaces, the same treatment was applied, and eventually combined with permanent irrigation. *b. Treatment of Septic Wounds with Disinfection and Lister's Dressing.*—Numerous incisions are made along the whole portion which is to be disinfected, all necrotic patches and shreds of tissue are removed, and it is thoroughly washed out with a 5·8 per cent. solution of carbolic acid. If the wound has still remained septic, the treatment is repeated till the desired aim has been effected. As soon as all traces of decomposition have disappeared in the wound it is no longer irrigated with carbolic acid while it is being dressed. The author has never observed any symptoms of poisoning following this treatment.—*c. König on Ankylosis of the Jaw caused by Inflammatory Processes in the Maxillary Articulation, and their Cure by Resection of the Joint.*—The author has treated only the so-called true ankylosis from *arthritis deformans*, fungous and rheumatic synovitis. The second joint, as a rule, is capable of movement even after the first has become ankylosed, although in young persons a unilateral affection of the jaw is very apt to arrest the further growth of the latter. The ankylosis may be removed by resection of the condyloid process, or eventually the coronoid process.—*d. Riedel: Pathology of the Knee-Joint.*—1. *Extension of the Knee-Joint.* The author has arrived at the conclusion that extension must be avoided in cases where the knee is stiff; it is, on the contrary, advisable when the knee is so far bent that the lig. lateral. have begun to relax. 2. *Swelling of the Knee-Joint.* *a.* The formation of circumscribed swellings of a certain size is one of the first symptoms of general articular tuberculosis. Two young men presented swellings on the external or inner portion of the joint. The tumours sprang from the fibrous tissue of the synovia, and consisted of connective tissue, which contained a great number of fat cells. The peripheral portion of this tissue was studded with tubercles. The tumours were extirpated, but the joints did not recover their power of motion. Resection was practised later on as new tumours were formed, but this operation did not prevent the formation of tubercles in the entire organism. It is difficult to say in such cases whether the tuberculosis of the joints is the primary affection, or whether a general latent tuberculosis leads to tuberculous deposits of the joints. *b.* The etiology of fibrinous movable bodies in the knee-joint. These bodies, which are comparatively rare, were seen twice in the course of four years in the clinic at Göttingen. They were in both instances accompanied by chronic inflammatory processes of the synovial membrane, which were partly caused by tuberculosis. *c.* Lipoma of the Knee-Joint.—Two cases of isolated lipomata. One had sprung from the lig. mucosum, the other from the fatty tissue which separates the superior recess of the joint from the bone. They were extirpated, and the joints retained their motility.—*e. Riedel: Tuberculosis of the Septum of the Nose* was observed in two individuals. It manifested itself in the form of ulcerations and infiltrations, which occupied the septum and left nostril in one case, and in the other the septum alone.—*f. Rosenbach: Contributions to the Study of Osteomyelitis.*—See LONDON MEDICAL RECORD, No. 48, June 15, 1879, p. 34.—*g. Walsberg on a Case of Tumour of the Coccyx.*—A girl, aged 26, had from the time of her birth a tumour attached

to the region between the anus and the point of the coccyx. It was extirpated with the exception of a process of the size of a finger, which extended as far as the pelvis. The tumour consisted of a cystic and a lipomatous portion. The former contained two large cysts surrounded by a large number of microscopic cysts, lined partly with long and slender cylindrical epithelium, partly with short cubicular granulated cells. The tumour also contained a cartilaginous and osseous structure of indefinite form.—*H. Riedel on the Condition of the Urine after Fractures of the Bones.*—The urine of nineteen patients who were suffering from fractures of the long bones having been examined, the results were as follows. 1. Eight of the patients had albumen in the urine during four to six days; in five cases, there were quantities of albumen. 2. In thirteen cases, cylindrical formations of four different shapes and colours have been found in the urine, viz., in one case, true epithelial casts; in four cases, round smooth hyaline casts; buff round cylinders, seven times; flat hyaline cylinders, eleven times. The buff cylinders, which are formed in the kidney itself, are met with in no other renal affection, and are, therefore, pathognomonically very important. 3. In eight cases, the urine contained traces of fat. In almost every case a minimum quantity of white blood corpuscles were found in the urine; in two cases, there were also red corpuscles. In a rabbit in which both the thighs had been fractured, similar formations could be detected. Almost all the tubuli uriniferi contained brown pigment corpuscles, which partly occupied the open space of the ducts, and were partly imbedded in the epithelial lining. In the loops of Henle were some long buff coloured casts. The urine did not contain any albumen, but great quantities of long smooth casts floating in it, together with a few isolated round casts which were partly covered with small brown granular bodies. Riedel regards these formations as being derived from the colouring matter of the blood.

20. *Rose on the Surgical Treatment of Carcinomatous Struma.*—The surgical treatment of the malignant neoplasms of the thyroid gland, both of sarcomata as well as carcinomata, has hitherto been regarded as hopeless by all who have written on the subject. Professor Rose twice had the opportunity of performing extirpation of the goitre; in both cases the patients were no longer young; cachectic, and addicted to drink. Both patients died of prostration a few days after the operation. The necropsy revealed in the first case (sarcoma) that the right lobe of the thyroid gland, which had not been removed, as it was thought to be healthy, and several bronchial glands, were sarcomatous; in the second case, which was one of carcinoma, the neoformation had also spread over the whole of the organ. Notwithstanding, Rose is of opinion that a carcinomatous struma might be extirpated after tracheotomy had been previously performed below the struma, if only the right diagnosis could be made at a sufficiently early period. This has hitherto been impossible, as no symptom has as yet proved reliable. The affection as a rule spreads rapidly, contrary to the view of Löcke, who thinks that cancer progresses slowly. The only characteristic symptom in the later stages is the continuous growth of the swelling. The existence of lymphatic glands is no sure symptom, because they are apt to occur in benignant, and are sometimes absent in malignant, goitres. The application of iodine sometimes has the effect of temporarily reducing carcinomatous strumata in size.

In some cases, the patients complain of pains in the goitre, but these are not constant. It is a remarkable fact that the carcinomatous struma seems to exercise more frequently a pressure on the œsophagus than on the trachea. The majority of patients are between the ages of forty and sixty, but occasionally the affection has been known to occur as early as sixteen; but hitherto, only in one case, that of a girl aged sixteen, who was operated upon by Schuh, the result was favourable.

23. *Weinlechner on Reproduction of the Tibia after Osteomyelitis.*—At a recent meeting of the Gesellschaft der Aerzte in Vienna, Professor Weinlechner presented a lad, aged 17, who in October last had been taken ill with a severe inflammation of the left leg, from the knee downwards. When admitted into the hospital he was in a very precarious condition, a complication with pneumonia had set in, the temperature was permanently high, and he was much reduced in strength by the constant suppuration. When the patient had recovered from the pneumonia, Weinlechner proposed amputation of the leg, as osteomyelitis had manifestly set in; however, as this was objected to, Weinlechner removed the whole diaphysis of the tibia, which had in the mean time become necrotic. The extremity did not present a very slightly appearance after this operation, as the soft parts of the leg hung loosely about the remaining bone. The suppuration, however, decreased rapidly, and three weeks later the whole empty space was filled by osseous neoformation, which had developed within that short time. Five months have elapsed since, during which time the wound has been healing. It is now completely cicatrised, with the exception of two very small fistulas. The newly-formed tibia is about three centimètres wide in its lower part, it is slightly abducted and not yet quite consolidated, as there is a pseudarthrosis about nine centimètres above the mall. int. The knee-joint is movable, and the leg can be stretched out and bent without any difficulty, but suppuration has evidently taken place in the ankle-joint, as the leg is stiff and immovable in that region.

22. *Zweifel on Catgut as a Source of Infection.*—Prof. Zweifel of Erlangen reports a case where, twelve days after closing a very small vesico-vaginal fistula with a catgut suture, the patient had pyæmia and died. The *post mortem* examination proved that the infection could only have taken place from the pelvis. The instruments used for the operation had been kept in carbolic acid for many hours before the operation, so that the infection could only be ascribed to the catgut. Professor Zweifel was confirmed in his suspicion by reading an article in a foreign journal where a similar occurrence was related. It had been a case of ovariectomy. The operation had been performed with all possible antiseptic precautions, and the patient had died of pyæmia. This led to a microscopic examination of the catgut, which was found to contain bacteria. Herr Zweifel had some catgut which he was going to use in an operation for ovariectomy examined under the microscope, and a large number of bacteria were discovered in it. As the catgut had always been kept in carbolic oil, this seems to prove that bacteria possess a certain immunity against carbolic acid. In what way the microscopic organisms penetrated into the catgut is not quite clear. The author thinks that it is very probable that they may have been developed even in the well-stoppered bottle, as carbolic acid is very apt to

evaporate, especially if kept in a warm room. This circumstance may possibly explain many cases of death from pyæmia, which has supervened in spite of the most elaborate antiseptic precautions.

PHYSIOLOGY.

RECENT PAPERS.

1. BRIEGER.—On Skatol. (Abstract in *Med. Times and Gazette*, Feb. 8, 1878.)
2. DELAUNAY, GAETAN.—Fecundity and Sexuality. (Soc. de Biologie, Séance March 24, reported in *Le Progrès Médical*, May 31, 1879.)
3. FLEMING, W. B.—The Physiology of the Turkish Bath. (*Journal of Anatomy and Physiology, Normal and Pathological*, July 1879.)
4. FLINT, AUSTIN.—On the Source of Muscular Power. (Review in the *Boston Medical and Surgical Journal*, Jan. 23, 1879.)
5. FLINT, AUSTIN.—Experiments and Reflections upon Animal Heat. (*American Journal of Medical Science*, April 1879.)
6. FOULIS, JAMES.—The Development of the Ova and the Structure of the Ovary in Man and other Mammalia; with especial reference to the Origin and Development of the Follicular Epithelial Cells. (*Journal of Anatomy and Physiology, Normal and Pathological*, vol. xiii, 1879.)
7. FORSTER, J.—The Digestion of Milk by Suckling Infants. (*Mitt. d. Gesell. f. Morphol. zu München*, 1878, Sitz. 6 March; abstract in *Centralblatt f. d. Med. Wiss.*, 1879, p. 138.)
8. FRANCK, M.—The Action of Anæsthetics and of Nitrite of Amyl upon the Blood-Vessels. (Soc. de Biol., Séance May 3, reported in *Le Progrès Médical*, May 10, 1879.)
9. KEBLER.—The Physiological Action of Platinum. (Abstract in *Med. Times and Gazette*, Feb. 8, 1879.)
10. LABORDE.—The Action of Chloride of Magnesium upon the Heart and Intestines. (Soc. de Biol., Séance May 31, reported in *Le Progrès Médical*, June 7, 1879.)
11. LUCIANI and TAMBURINI.—The Functions of the Brain. (*Rivista Sperimentale*; Abstract in Dr. Atkins's Report on Nervous and Mental Diseases, *Dublin Journal of Med. Science*, May 1879.)
12. MORREAU.—The Physiological Action of the Sulphates of Soda and Magnesium. (Acad. de Médecine, Séance April 8, reported in the *Archiv. Gen. de Méd.*, May 1879.)
13. OLTRAMARE.—The Physiological Effects of Salicylate of Soda upon the Circulation, and its mode of action in Rheumatism. (Soc. de Biol., Séance June 7, reported in *Le Progrès Médical*, June 14, 1879.)
14. PICARD.—Physiology of the Liver. (Soc. de Biol., Séance April 19, reported in *Le Progrès Médical*, May 3; and in *Gaz. des Hôpitaux*, May 6, 1879.)
15. RICHET, CH.—On the Method for the Preparation of Amorphous Hæmoglobin according to Hoppe-Seyler. (Lectures on Physiological Chemistry, reported in *Le Progrès Médical*, June 21, 1879.)
16. SIMONIN.—Three Physiological Facts which may act as Guides in the Administration of Chloroform. (Soc. de Chir., Séance April 30, reported in *Le Progrès Médical*, May 3, 1879.)
17. ZANDER, RICHARD.—The Effects of Section of both Vagi in Birds. (*Centralblatt für die Med. Wiss.*, Nos. 6 and 7, 1879.)

1. *Brieger on Skatol.*—A body of considerable interest as a product of the decomposition of albumen in the human intestine was discovered in 1878 by Brieger. On distilling human fæces with dilute sulphuric acid, several members of the fatty acid

series, including acetic, valerianic, and caproic acids, passed over; and, on further distilling the residue with acetic acid, phenol, indol, skatol, and a yellow oil of very penetrating odour which has not been further examined, collected in the receiver. Skatol resembles indol in crystallising in white lamellæ, and in its intensely fæcal smell; it differs, however, from indol in being less soluble in water, in having a different melting point, and in giving with fuming nitric acid a whitish cloudiness instead of a red tint. Brieger failed to obtain any skatol by distilling the fæces of dogs. It has been long known that by melting caustic potash in contact with albumen, a substance was formed having a strong odour of fæces, and some of the chemists who examined it called it "pseudo-indol", owing to the many points of resemblance between it and indol. Herr Nencki of Berne has, however, lately discovered that the so-called "pseudo-indol" is a mixture of indol and skatol. He has further shown (*Centralblatt Med. Wiss.*, No. 47, 1878) that if finely divided muscle be allowed to remain in contact with chopped pancreas in the presence of water for several months at the ordinary temperature of the air, instead of indol, only skatol is present at the end of the operation. By distilling the putrid solution thus prepared with acetic acid, the skatol passes over into the receiver, and can be precipitated by picric acid after acidifying with hydrochloric acid. By redistilling the combination of picric acid and skatol with liquor ammoniæ, pure skatol passes over and can be crystallised from hot water. The skatol thus obtained has a melting point of 95 deg. C., and in all respects resembles the body prepared by Brieger from human fæces. Its provisional formula is C_9H_7N . It is a point of great interest with regard to skatol, that while within the body, and at the ordinary temperature of the body, only a few hours are necessary for its production; whilst at least five months would be required at a much lower mean temperature outside the body. Herr Nencki points out that this observation offers the first satisfactory proof that the products resulting from the action of organised ferment, such as that of the pancreas, should vary with the temperature. Another property of skatol deserves mention in connection with the observations which have been recently made on the excretion of indican in the urine. If small quantities (0.01 to 0.02 gram.) are injected under the skin of a rabbit, the urine becomes violet red on the addition of hydrochloric acid and chloride of calcium, and even of hydrochloric acid alone. Probably, therefore, part of the skatol found in the human bowel is absorbed, and passes in an altered form into the urine. The greater part, however, according to Brieger (*Centralblatt*, No. 30, 1878), is simply excreted with the fæces.

2. *Delaunay on Fecundity and Sexuality.*—M. Gaetan Delaunay, in a recent communication, states that fertility, which is unlimited in the lowest classes, decreases as the human race is approached. The inferior races are more fruitful than the superior; the black, yellow, and other races being more fertile than the white. Amongst Europeans, the Russians, Spaniards, and Italians, *i.e.*, the nations which are the least advanced in civilisation, are the most fertile; whilst the least fertile are those furthest advanced in the scale of evolution, *viz.*, the French and Swiss. It has been stated that the relative sterility of France was voluntary, but M. Delaunay refutes this accusation. Fertility diminishes in a nation as it becomes more highly civilised. Intel-

lectual persons, and those who live in towns, have a smaller number of children than the ignorant and labouring classes. The young and the old are more fertile than adults, and the same is true of the weak as opposed to the vigorous. Athletes and persons who perform much brain work have but few children, as has been shown by Dr. Drysdale. The lower tissues reproduce themselves more readily than the higher ones. A plant or animal which receives too great a supply of food becomes infertile. Thus, dogs belonging to the poor produce more offspring than others of the same race which belong to the richer class. The wretched and badly fed are more fruitful than the wealthier, and, therefore, fertility has no relation to the means of livelihood. Summer and warm climates increase the fertility. In short, therefore, fertility being at its maximum in those least advanced upon the path of evolution, and at its minimum in those furthest advanced in the same scale, it may be regarded as being in an inverse ratio to the evolution. *Sexuality.*—The lower races produce more females and the higher nations more males. Young and old animals bear more females than males. From the age of thirty-five onwards a man begets more girls than boys. The vigorous produce boys, and the weakly girls. Under the first empire, when all adult males were serving in the wars, a very large majority of girls were born. Years of dearth favour the procreation of girls, and years of abundance of boys. Idleness tends to cause the birth of females. Persons who perform much mental labour are more liable to produce girls than boys. A majority of girls are born in summer and in warm years, and of boys in winter and cold years. In short, therefore, an individual of a less high degree of evolution produces girls, of a higher degree boys, whilst, at a still higher degree, he again begets girls. In the same way, one who is fed too little or too much produces girls, boys being born when he is simply well fed. Upon this communication M. Galippe remarked that the biological law laid down by M. Delaunay was wrong, inasmuch as it was unsupported by conclusive facts. It was, moreover, entirely incorrect in regard to England, the English being certainly far advanced in the scale of evolution, whilst they produce a large number of children.

3. *Fleming on the Physiology of the Turkish Bath.*—Dr. W. B. Fleming has made a series of experiments upon himself in regard to the effect produced upon his body by immersion in hot dry air. The conclusions at which he has arrived are as follows. A very large quantity of material can be eliminated from the body in a comparatively short time by immersion in hot dry air, and, although the greater part of this is water, still solids are present in quantity sufficient to render this a valuable emunctory process. The temperature of the body and the pulse rate are markedly raised. The respiration falls at first, but afterwards is less influenced than would be expected *primâ facie*. The urine is increased in density, and deprived of a large proportion of its chlorides, while, if anything, an increase in the amount of urea is produced. The principal effect upon arterial tension seems to be an increase produced by the greater rapidity of the heart's action combined with the dilated, and even gorged, condition of the capillary circulation. From these conclusions the following practical observations as to the use of the Turkish bath in medicine may be deduced. Its most important effect is the stimulation of the emunctory action of the skin. By this means,

the solid and fluid tissues, and especially the blood and skin, may be effectually washed by passing water through them from within outwards. Hence in practice, one of the most essential requisites is copious drinking of water during the sweating. The elevation of the temperature, and more especially of the pulse-rate and blood-pressure, point to the necessity of caution in cases where the circulatory system is diseased. A prolonged use of the bath seems to produce more or less depression, as shown by the fall of the pulse and temperature after fifty-five minutes. It is probable that the time at which this occurs varies with individual idiosyncrasy. The great use of the bath seems to be the power it possesses of producing a free action of the skin in persons of sedentary habit, or suffering from disease interfering with fluid excretion, and by its means considerable elimination of morbid matter may also be brought about. It is also an efficient means, if resorted to sufficiently early, of relieving internal congestion, on the same principle, and with much greater certainty, than the usual diaphoretics; and, in rheumatoid affections, not only does it act in this way, but, by the relaxation of muscles, permits of passive movements, rubbing, etc. (shampooing), exercising a much greater influence than they would independently exert.

4. *Flint on the Source of Muscular Power.*—Dr. Flint discusses the question as to whether the muscular power manifested by man and animals is the direct product of the metamorphosis of the elements of food ingested, or is generated by changes in the muscular tissue itself. In the latter case, the muscular substance as such is destroyed, and is discharged from the body in the form of excrementitious matter, whilst the waste is repaired by food. In the case of a steam-engine, the latent energy of the fuel is developed into heat by combustion, and the engine itself serves merely as a convenient mechanism for translating the heat into actual working force. In like manner, according to some physiologists, the muscles and active organs of the body are merely a convenient mechanism for translating into force the latent energy of the food which is developed during the metamorphosis of digestion and assimilation. In opposition to this theory, Dr. Flint analyses some observations made by Dr. Pavy upon Weston and other pedestrians, and shows that the estimated force value of food was sufficient to account for only a small fraction of the muscular work actually performed. By a further analysis of some observations of his own, Dr. Flint concludes that the true origin of muscular power must be sought in the muscles themselves, and that the exercise of these muscles produces a waste which is measured by the nitrogen excreted. Indirectly the nitrogenised food is a source of power by repairing waste and developing capacity for work; but food is not directly converted into force in the living body, nor is it a source of muscular power, except that it maintains the muscular system in a condition for work.

5. *Flint on Experiments upon Animal Heat.*—Dr. Flint has recently made some experiments upon himself as to the mechanism of the production of heat. In normal nutrition by food, the heat of the body must be maintained by changes which take place, either directly in the blood or indirectly in the tissues, in the alimentary materials; and these changes involve oxidation to a very considerable extent. Under the ordinary conditions of nutrition, it is assumed that the food furnishes all the material for maintaining the heat of the body and for the

development of force in work, such as the muscular work of respiration, circulation, and general muscular effort. If no food be taken for a certain time, the heat of the body must be maintained, and the work must be accomplished at the expense of the substance of the body itself, and the individual loses weight. To furnish a positive scientific basis for the views above expressed, physiologists have burned various articles of food in oxygen, and have then calculated their heat value. The results hitherto obtained from experiments based upon this method have been somewhat unsatisfactory, and the conclusions arrived at by Dr. Flint in regard to this question are as follows. It is probable that nearly all the animal heat is produced by the oxidation in the body of certain elements, which are chiefly nitrogen, carbon, and hydrogen. It is probable that this oxidation does not take place entirely in the blood, but that its seat is in the substance of the various tissues, and that it is connected with the general processes of nutrition and disassimilation. Heat is thus evolved, and the final products of the chemical actions involved are mainly urea, carbonic acid, and water. It must be remembered, however, that the oxidation is not necessarily a process identical with combustion out of the body, but that it is probably connected with a series of intricate molecular changes which cease with the life of the tissues, and of which we are able to recognise only the final results, viz., calorification and certain chemical products. Recognising the products urea, carbonic acid, and water, as representing probably the evolution of a certain amount of heat, the heat actually produced in the body by the amount represented by the urea and carbonic acid discharged is not accounted for. If it be admitted that hydrogen is oxidised in the body, resulting in the evolution of heat and the production of water, all the heat actually manifested as heat will be accounted for, whilst an excess will be left which may be converted into force. Dr. Flint's experiments show pretty clearly that, when no food is taken, and when food being taken muscular work is performed, so that there is loss of body weight, water is actually produced in the body. This, and this only, accounts for all the heat evolved under these conditions. There is no reason to suppose that the processes involved in the production of heat are radically changed in their character when enough food and water are taken to maintain a uniform body weight. Animal heat is produced mainly by the oxidation of the nitrogen, carbon, and hydrogen of the tissues, the waste of these elements being supplied by the food. Probably the oxidation of carbon and hydrogen is a more important factor in calorification than oxidation of nitrogen; at least, it is certain that the heat value of the oxidation of carbon and hydrogen is greater than that of the oxidation of nitrogen, and the quantity of heat thus produced is very much greater. Of the two elements, carbon and hydrogen, the oxidation of which produces animal heat, the heat-value of the hydrogen is by far the greater. It is probable that there is always a certain amount of oxidation of hydrogen in the body, and that this is necessary to maintain the animal temperature; and it is almost certain that this occurs during prolonged abstinence from food, and when the production of heat is much increased by violent and protracted muscular exertion. It may be, also, that there is an active and unusual oxidation of hydrogen as well as of carbon in fevers.

6. *Foulis on the Development of the Ova.*—Dr.

Foulis continues his researches into the development of ova and the structure of the ovary. In a previous paper read before the Royal Society of Edinburgh in 1874, the author stated that the ova are derived from the germ epithelium cells, whilst the cells of the follicular epithelium originate in the cells of the stroma of the ovary. The structure of the ovary was declared not to be tubular, and, consequently, the Graafian follicles are not formed from such tubular structures, as has been maintained by several distinguished German observers. The general conclusions at which Dr. Foulis has arrived in the present series of observations are thus stated. All ova are derived from germ epithelial cells. In the development of the ovary, small and large groups of the germ epithelial cells become gradually embedded in the ever advancing stroma. Germ epithelial cells do not grow downwards into the substance of the ovary. The ovarian stroma constantly grows outwards, surrounding and embedding certain of the germ epithelial cells. As these latter increase in size, and as the stroma thickens around them, the whole ovary becomes enlarged. The tubes described by Pflüger in the ovary of the kitten have no real existence, but are appearances produced by long groups of embedded germ epithelial cells, many of the groups not being completely cut off from the germ epithelial layer by the young ovarian stroma. Such groups of germ epithelial cells in various forms are met with in all ovaries, but have no importance whatever as tubular structures. In the human child's ovary, numerous furrows or clefts are met with between irregularities of the general surface. Sections through these furrows and clefts produce the appearance as if the germ epithelium (pseudo-epithelium, Balfour) passed downwards into the ovary in the form of tubular open pits, as was described by Waldeyer and his predecessors. No real tubular structures from which Graafian follicles are formed exist in the mammalian ovary at any stage of its development. Graafian follicles are formed only in one way from the beginning of the ovary to the end of its existence. The youngest connective tissue of the stroma, in the form of offshoots of jelly-like protoplasm, surrounds and embeds large and small groups of germ epithelial cells. A single germ epithelial cell may be completely surrounded by this young connective tissue. When this takes place, the germ epithelial cell rapidly grows and becomes a primordial ovum. Each individual cell in a group of germ epithelial cells surrounded by the young ovarian stroma, shows a similar tendency to become a primordial ovum. All the groups of developing germ epithelium cells, or cell-nests, in the ovary, are broken up into still smaller cell-nests by the ever advancing young connective tissue, until at last individual cells in the cell-nests become completely surrounded by the youngest connective tissue. When an individual germ cell becomes surrounded by the young connective tissue, at the same time and as part of the process, the Graafian follicle begins to be formed. Wherever the young jelly-like connective tissue appears in its substance, nuclei, generally fusiform at first, make their appearance. These nuclei may be always seen in contact with the yolk substance of the primordial ova. The follicle cells are derived from the nuclei which lie in contact with the protoplasm or yolk substance of the developing ova. This takes place in all parts of the ovary wherever cell-nests are formed. The follicle cells thus originate from the cells of the ovarian stroma, and not

from the germ epithelial cells. In the mammalian ovary at birth, the most advanced ova are met with deep in the ovary, and not in passing from without inwards, as described by some observers. In a ripe Graafian follicle the stroma cells outside the membrana propria follicule become converted into cells exactly similar to the true follicle cells, and it is possible to trace the ordinary stroma cells outside the follicle, through all stages of development, into cells resembling the follicle cells, the observation affording a most conclusive proof of the origin of the follicle cells from the ordinary cells of the stroma.

7. *Forster on the Digestion of Milk by Sucklings.*—Dr. J. Forster has experimented with a child of four months old in relation to the digestion of its daily quantity of 1,100 to 1,200 cubic centimetres of a mixture of four parts of cow's milk to one part of thin rice-water. During the experiments, the child increased in weight to the extent of about 150 grammes per week. For eleven consecutive days, the ingesta and egesta of the body were accurately estimated. In this time the child consumed 13.4 litres of the mixture, or, on the average, 1,218 cubic centimetres of milk and 136.8 grammes of dry food per diem. In the alimentary canal of the child, the solid parts of the milk ingested were reduced to 6.36 per cent., or rather more than double that which has been observed by former investigators in adults. The reduction, however, is always less than with a flesh diet. The fat seems to be the part which is the least readily disposed of, for, after digestion, the residue contained no trace of albumen or sugar, but 30 to 40 per cent. of fat and fatty acids, and 34 per cent. of ash. A third of the ash (11 per cent.) was calcium, which effervesced strongly with acids. A great part of the fæces evacuated consisted of soaps. Of the 87.8 grammes of salts taking in the eleven days during which the experiment lasted, 32.1 grammes were recovered from the fæces. Of the 13.56 grammes of calcium which were ingested in the same period, 10.34 grammes passed through the digestive tract. From these results it might be supposed that the amount of ash ingested in this time would be too small, and especially that of the calcium, for the requisite growth of bone, but this is contradicted by experience. There always remains within the body a marked quantity of lime. Thus, of the 1.25 grammes of calcium ingested daily, 0.92 gramme appeared in the fæces, but not more than 30 milligrammes at the utmost are eliminated by the kidneys as was estimated for a child of 2½ years of age; consequently, 0.3 gramme of calcium is stored up per day, or 2.1 grammes per week. This quantity of lime is sufficient for the formation of about 19 grammes of bone, or, upon this estimation, about one kilogramme a year.

8. *Franck on the Action of Anæsthetics and Nitrite of Amyl upon the Blood-Vessels.*—Chloroform, ether, and nitrite of amyl, when given to animals, cause the blood-vessels to dilate. M. Franck, by a series of experiments, has shown that anæsthetics and nitrite of amyl do not act in the same way although they both cause this dilatation. The dilatation of the vessels under the influence of the various agents is shown by a lowering of the blood-pressure, which may fall from 18 centimetres of mercury to 5 centimetres. If, however, the superior laryngeal nerve be stimulated after this diminution of the blood-pressure has taken place, results are obtained which differ according as the animal has previously inhaled chloroform or nitrite of amyl. Normally, stimulation of the superior laryngeal nerve produces

a contraction of the vessels. If, however, chloroform or ether has been administered, stimulation of the nerve causes no contraction of the vessels; the dilatation, therefore, appears to be of a paralytic nature. With nitrite of amyl, however, the pressure rises as soon as the superior laryngeal nerve is stimulated, and the dilatation is, consequently, an active change. In conclusion, M. Franck insists upon the fact that, in dilatation following the administration of nitrite of amyl, there is no redness of the mucous membranes, as the blood is asphyxiated.

9. *Kebler on the Physiological Action of Platinum.*—Platinum is one of the metals whose action on the living organism we know very little about. Therapeutically, it is at present nowhere. And yet some recent researches made by Herr Kebler at Strasburg show that its properties are in some respects peculiar. The salt used in these experiments was the double chloride of platinum and sodium, a solution of which, containing 0.050 platinum in one cubic centimetre, was injected, in varying quantities, under the skin of frogs and into the veins of warm-blooded animals. In frogs, 3 to 50 milligrammes of the metal first caused increased general reflex irritability, and then the voluntary movements became paralysed, while spontaneous convulsive twitchings of the limbs or of certain groups of muscles occurred, which ceased on division of the medulla oblongata. In rabbits, 25 to 50 milligrammes of platinum, and in dogs 45 to 95, caused profuse diarrhoea when injected into the jugular vein. In dogs, blood generally appeared in the motions, and vomiting was not uncommon. Hyperæmia of the mucous membrane of the stomach and intestine occurred in rabbits, but in dogs all the abdominal viscera were hyperæmic, even the nerve-trunks being involved, while the digestive mucous membrane was softened and infiltrated with blood. The bladder of dogs poisoned with large doses of platinum was sometimes ecchymosed. The action of the salt on the circulation mainly showed itself in a continuous fall in the blood-pressure, with scarcely any alteration in the frequency of the pulse. This fall appears to depend entirely on dilatation of the blood-vessels, especially those of the abdomen, owing to paralysis of the terminations of their peripheral nerve-fibres. The excessive stagnation of blood in the abdominal vessels, due to their dilatation, Kebler regards as the cause of the morbid phenomena occurring in the digestive tract. He is also inclined to refer the nervous symptoms met with in frogs, in part at least, to the vascular dilatation, though unable to exclude the possibility of a direct action of the platinum on the central nervous system. We record these experiments without suggesting in what way they may be made therapeutically serviceable. One thing, however, seems clear, that the peculiar action of platinum was scarcely likely to prove of much value in the treatment of syphilis, the disease in which it has as yet been chiefly tried.

10. *Laborde on the Action of Chloride of Magnesium upon the Intestines and Heart.*—M. Laborde has lately taken occasion to study the effect of magnesium chloride upon the heart of the frog. For this purpose, he injected at two different times 20 centigrammes of magnesium chloride beneath the skin of the frog at a point as far distant from the heart as possible. The sphygmographic tracing obtained after this experiment was at first normal; but, after a time, the amplitude of the heart-beats was markedly increased. Twenty minutes after the injection the beats became intermittent, and, in many

cases, stoppage of the heart took place, though breathing upon the organ was sufficient to cause it to resume its action. After a short interval, however, the heart entirely ceased to beat. When this occurred, an electrical stimulus could still cause it to beat for a few seconds, but the movements thus produced did not long continue, and the stoppage of the heart became permanent. M. Laborde also found that magnesium chloride when injected into the veins of a dog, in the proportion of 1 gramme .50 to 5 grammes of water, excited increased peristaltic action of the intestines. This salt acts, therefore, upon the muscular coats of the intestine as well as upon the cardiac muscle. M. Paul Bert hereupon remarked that M.M. Jolyet and Lafont recently demonstrated that magnesium salts caused cessation of the heart-beats, not by their action directly upon the heart-muscle, but through the nervous system of that organ; in short, the magnesium salts are poisonous to the nervous system.

11. *Luciani and Tamburini on the Functions of the Brain.*—The following conclusions have been arrived at by Luciani and Tamburini. 1. The excitable area of the cerebral cortex presents in dogs and cats as well as in apes considerable differences of disposition and boundaries, not only between different animals, but between the two hemispheres of the same animal. 2. In the dog, by electric stimulation, two distinct centres in the sigmoid gyrus for opposed movements of both anterior and posterior limbs can be established. 3. In apes, the excitable area for the limbs and face is not limited solely to the ascending frontal convolution, as Hitzig claims, but extends also to the ascending parietal, the angular gyrus, etc., as Ferrier has shown. 4. The existence of a special epileptogenic zone in a fixed and definite cortical area is inadmissible, but, under proper conditions, the excitation in any excitable area whatever may cause an epileptic attack which commonly begins in convulsions limited to the groups of muscles from the centres from which emanates the irritation. 5. The different excitable areas appear to be variously scattered, probably on account of their being endowed with different degrees of excitability. This may be presumed for many reasons, and especially that to produce a complete epileptic attack acting on the same, requires a different intensity of the electric current. 6. It is absolutely impossible that the movements produced by the electric stimulation of the cortex can be due to a diffusion of the current to the dura mater. 7. The hypothesis that the movements produced by electrical stimulation of the cortical zone may be of a reflex nature, in that there are in the excitable area so many sensory centres for the different parts of the body, does not stand against the facts of the decomposition co-ordination to an end, and constancy of these, since the movements produced reflexly by peripheral irritation never possess such characters. 8. The phenomena of lost motility produced by ablation of the excitable zone are of an absolutely paralytic, and not of an ataxic, nature. 9. The aforesaid paralytic phenomena are transitory, but they last longer—that is, the compensation takes place the more slowly as we ascend in the animal scale. 10. To explain the recovery from the paralytic phenomena, the idea is inadmissible of a functional substitution of a neighbouring area, or of the opposite hemisphere; nor can it even be said that the psychomotor function is located in the basal centres; but it is needful to admit that these last may physiologically be centres of voluntary motion, since the

development or perfection of this their function produces the cure of the paralytic phenomena, and produces it all the more quickly the more developed is this function normally.

12. *Moreau on the Physiological Action of the Sulphates of Soda and Magnesium.*—M. Moreau communicated to the Académie de Médecine of Paris the results of his experiments in regard to the physiological action of the sulphates of soda and magnesia. He finds that the presence of solutions of sulphate of soda or of magnesia in the intestines gives rise to certain phenomena of absorption which are manifested at the commencement of their actions. After a short period, secretion and excretion take place to a greater extent, but no absorption occurs. During this second period, therefore, it cannot be supposed that there is any double current; but it should rather be said that the loop of intestine is, under these conditions, comparable with a gland which secretes without absorbing. M. Colin, who has also performed similar experiments, and has noted this fact, contends that there can be no absorption of the intestine simultaneously with the secretion caused by the saline purgative.

13. *Oltramare on the Physiological Action of Salicylate of Soda.*—M. Oltramare, a pupil of Professor Chauveau, has made a large number of experiments upon animals for the purpose of determining the physiological action of salicylate of soda. When introduced directly into the veins, the drug constantly increases the pressure, the number of pulsations, and the systolic force of the heart; this effect is transitory, and is due to a direct stimulation of the heart, and probably, also, of the motor centres. At the same time, the rapidity of the current of blood, as measured by means of the hæmodromograph constructed by Professor Chauveau, increases gradually; this second effect, being due to a dilatation of the blood-vessels, is much more persistent than the previous one. Under the influence of repeated injections, the irritability of the heart is diminished, and when the poisonous dose is reached, that is to say, one gramme per kilogramme of the body weight for the dog, ass, and horse, irregularities of the pulse occur, it becomes intermittent, the blood-pressure falls rapidly, and the heart ceases to beat. The animal dies from paralysis of the heart, and not, as has been stated, from asphyxia. The examination after death shows that the abdominal viscera, in relation with the vascular phenomena observed during life, are intensely congested. If the medulla be divided, a very marked condition of anæmia succeeds the hyperæmia; it therefore appears, according to M. Oltramare, that salicylate of soda acts upon the vaso-motor centre in the medulla. If a parallel be established between the anatomico-pathological processes of acute articular rheumatism, the physiological effects of salicylate of soda and its therapeutic properties are incontestable. M. Oltramare believes that he can prove that this remedy acts by substituting a state of general dilatation of the capillaries for a localised hyperæmia. So long as the rheumatic lesions are of a purely vascular nature, salicylate of soda appears to possess a therapeutic value, but when disorders of nutrition intervene, it is of necessity inefficacious. It is for this reason that salicylate of soda is useless in the subacute or chronic forms of rheumatism, and this want of success in such cases seems to support the theory here advanced.

14. *Picard on the Physiology of the Liver.*—M. Picard of Lyons communicated some experiments

which appear to show that section of the nerves going to the liver does not cause diabetes. The nerves supplying the liver do not exercise any great influence upon the circulation in the organ. In a previous communication, he showed that section of the nerves supplying the liver did not cause any increase in the amount of urea in the blood. M. Picard finds that dogs survive the section of the nerves, and that in animals which have undergone this operation the amount of sugar in the urine, and the quantity of bile secreted, are nearly the same as in the normal individual. The liver appears, therefore, to be to a certain extent independent of that part of the nervous system which directly enervates it. The blood appears to lose in the liver a portion of its hæmoglobin. After section of the nerves of the liver, subsequent stimulation shows that they have only a dull sensibility, whilst excitation of their distal extremities produces no immediate or marked effects. The flow of blood through the gland does not, so far as can be determined, depend upon the nervous supply, but it is more abundant during expiration. Prolonged stimulation of the peripheral extremities of the hepatic nerves causes a change in the urine, which becomes diabetic. In brief, therefore, the experiments of M. Picard have afforded the following results. The liver probably contains secretory fibres, such as is shown by the fact that there are nerves which bring about the appearance of sugar in the urine. It receives but few sensory and vaso-motor fibres, and its functional activity is in opposition to the reflex action exerted by other organs whose circulation is to some extent correlative to its own. Digestion, which increases the functional activity of the glands, stomach, etc., and causes a congestion of the intestine, produces a more active circulation in the portal vein and liver, and gives an impulse to the functions of the whole organ. The glycosuria, on the other hand, appears to be directly dependent upon the hepatic nervous system, through which it may be called into increased activity.

15. *Hoppe-Seyler on the Preparation of Hæmoglobin.*—M. Hoppe-Seyler recommends the following method for the preparation of amorphous hæmoglobin. The corpusculated fluid is treated with ether, and then with acetate of lead. By this means the various albuminous substances are precipitated, with the exception of the hæmoglobin, which remains in solution. The fluid is then filtered, and the albumens which coexisted in the blood with the albumen are thus separated off. The excess of lead is eliminated by the addition of carbonate of potash, the solution is filtered, and, to the clear filtrate, carbonate of potash in powder is added, when the hæmoglobin is precipitated in the form of silver-gilt flocculi. The precipitate is collected upon a filter and then pressed between paper; it is hæmoglobin mixed with a certain quantity of potassium carbonate.

16. *Simonin on the Physiological Facts in regard to Anæsthesia.*—M. Simonin believes that of the various symptoms of etherisation three appear to predominate. By means of these symptoms a diagnosis of the various degrees of etherisation may be made, and by them the surgeon may be guided in the administration of an anæsthetic, and may obtain the full effect without risk of accident. The symptoms alluded to are, firstly, the manifestation of peripheral insensibility, markedly in the temples and cornea; secondly, the condition of the muscles of the lower jaw; thirdly, the state of the pupils, more especially in regard to their contraction, and to the

relaxation of the iris. The conclusion of the author in regard to these points is, that when the peripheral insensibility sets in, the patient is in a fit state for the surgeon. The patient is in no danger so long as the jaws remain closed. Lastly, the contraction of the iris is a nearly constant symptom of the surgical period of etherisation, and the maintenance of the contraction shows that the anæsthetised patient is not in any danger. But dilatation of the pupil should cause uneasiness, or at any rate should provoke the greatest attention on the part of the surgeon to the state of his patient.

17. Zander on the Effects of Section of the Vagi in Birds.—Mr. Zander of Königsberg discusses the section of both vagi in birds. Blainville and Billroth have already shown that section of these nerves is without effect upon the condition of the lungs, and the question has also been investigated by Professor Eichhorst. Mr. Zander first experimented as to the effect of section of the vagi in regard to respiration. He finds that the lungs under these conditions become gorged with blood owing to the stimulation of certain vaso-motor fibres for the pulmonary vessels which run in the vagi. This hyperæmia, however, which is often accompanied by slight œdema, quickly subsides without producing further symptoms. Ducks treated in this way did not lose their voice. The dyspnœa which frequently occurs before death is to be attributed solely to inanition, as it may be observed in uninjured animals, or in cases where the lungs have undergone no appreciable change. The effects of such an operation upon the vascular system are next considered. The heart-beat is greatly accelerated and its muscles undergo fatty degeneration. This process is due in the first place to starvation, whilst it is increased by the rapid action of the heart. In a similar manner, the paralysis of the heart, which is occasionally the primary cause of death, may be generally set down as the result of inanition, and to this cause is also due that ultimate lowering of the temperature which is the sure prelude of death. Immediately after section of the vagi, the temperature, taken in the cloaca, falls rapidly, and then, after an interval, rises. In regard to the digestive tract, it was noticed that section of the vagi paralyses the œsophagus, though the sensation of hunger remains. For this reason, large quantities of food are ingested until the crop is very greatly distended, although none passes into the stomach. In some cases, death from septic pneumonia occurs owing to a portion of the food passing into the lung. The secretion from the mucous membrane of the crop is not stopped. The liver continues to excrete bile in considerable quantities, but glycogen and sugar soon disappear. As a general result, Mr. Zander states that, after section of the vagi in birds, death is due to inanition, as the result of paralysis of the upper portion of the alimentary canal, which prevents food entering the stomach. Young animals are often suffocated. Death occasionally occurs from paralysis of the heart, but this is not a normal result.

D'ARCY POWER.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. ANDERSON, JEROME.—A Case of Amputation of the Cervix Uteri by the Galvanic Cautey, followed by Pregnancy. (*The Cincinnati Obstetric Gazette*, June 1879.)

2. ATWATER, H. H.—Analysis of One Thousand Cases of Midwifery in Private Practice. (*American Journal of Obstetrics*, April 1879.)

3. GUICE, N. L.—Case of Arm Presentation, followed by Septicæmia and Death: Remarkable Condition of Uterus. (*The Cincinnati Obstetric Gazette*, June 1879.)

4. MCBRIDE, T. A., and MANN, M. D.—On a Case of Hysterical Anuria, cured by Restoring a Lacerated Cervix Uteri. (*Archives of Medicine*, June 1879.)

5. MILLER, HUGH.—Case of Partial Annular Laceration of Cervix Uteri during Labour. (*Glasgow Medical Journal*, June 1879.)

6. PARVIN, THEOPHILUS.—Three Cases of Rupture of the Uterus. (*American Gynecological Transactions*, vol. iii, 1879.)

7. PARVIN, THEOPHILUS.—Ovotomy. (*Transactions of the American Medical Association*.)

8. RIBEMONT, ALBAN.—Researches on the Topographical Anatomy of the Fœtus in its Relation to Obstetrics. (Octave Doin, publisher, Paris, 1878.)

9. RICHARDSON, W. L.—A Contribution to the Study of the Treatment of the Acute Parenchymatous Nephritis of Pregnancy. (Vol. iii of the *Transactions of the American Gynecological Society*, 1879.)

10. SCHRAMM, JUSTUS.—Pilocarpin in Two Cases of Eclampsia. (*Centralblatt für Gynäkologie*, den 21 Juni, 1879.)

11. SCHUCKING, A.—The Physiology Period, immediately after Delivery. (*Centralblatt für Gynäkologie*, den 5 Juli, 1879.)

12. SMITH, A. H.—Pendulum Leverage of the Obstetric Forceps. (Vol. iii of the *Transactions of the American Gynecological Society*, 1879.)

13. STUDLEY, W. H.—Fracture of the Pelvis during Instrumental Delivery. (*American Journal of Obstetrics*, April 1879.)

14. JONES, TALBOT.—Case of Intra-Ovarian Pregnancy, with *post mortem* examination. (*American Journal of Medical Sciences*, April 1879.)

15. TARNIER, S.—Extra-Uterine Gestation. (*Annales de Gynécologie*, July 1879.)

16. WARD, S. B.—A Case in which Conception followed very Imperfect Connection. (*American Journal of Obstetrics*, April 1879.)

2. *Atwater on Midwifery in Private Practice*.—Dr. Atwater had fifteen deaths of mothers in 1,000 labours in private practice. Of these deaths, three resulted from difficult and protracted labour, namely, one face presentation, mento-posterior, delivered by forceps; one delivered by craniotomy, and one twin case, illegitimate, hour-glass contraction, and *post partum* hæmorrhage. There were seven deaths from puerperal eclampsia, of which two were illegitimate cases; three deaths from puerperal fever, one death from placenta prævia centralis, and one from hydrothorax, eight days after delivery. Setting aside abortions, there were 510 male children and 447 females. There were 79 still-born children. The forceps was used in 64 cases, or one in fourteen, version ten times, craniotomy three.

3. *Guice on a Case of Arm Presentation*.—Dr. Guice was called by a medical man to visit a negress, multipara, in labour three days. He found her lying on a pallet in the centre of the floor. She was giving out a most disgusting stench; skin cool and clammy; no pulsation in the radial arteries; patient rational, and said she felt quite well. At intervals he heard a loud and sickening explosive noise, caused by the escape of putrefactive gases from the vagina. Both the attending and consulting physicians had left for home. An arm of the fœtus, swollen and decayed, occupied the vagina, and the stench occasioned by the escaping fluids was as nearly intolerable as such

can be. Both feet were seized, and a full term male foetus, far advanced in decomposition, was delivered. The rotten placenta lay detached in the cavity of the uterus, and was easily removed. The abdomen presented the same size after as before delivery. Discovering, when removing the placenta, that the uterus did not contract, Dr. Guice again introduced his hand into the cavity, when he found the following condition. The uterus presented a large cavity, with walls standing as they had been moulded over the dead foetus, and to the touch resembling half-dried raw hide. Impressions made by the irregularities of the foetus were perfectly distinct and permanent. To the touch the walls appeared abnormally thick. Any part of this wall would yield stubbornly to pressure under the fingers, but would, upon removal of the pressure, return to the original position. No irritation, internally or externally applied, produced the slightest effort at contraction. The abdomen of the woman presented the same appearance after as before delivery. Not a drop of fresh blood escaped. The delivery was rapid, easy, and painless. The degree of septicæmia precluded all hope of recovery, and she died six hours after delivery. Dr. Guice says that the case has two points of interest. First, that a physician should persistently attend a case of arm presentation for forty-eight hours or more, when he must have known, first as well as last, that he was incompetent to the task before him, and hence that inevitable death must be the fate of the unfortunate woman. Second, that from infiltration or other cause the walls of the uterus should become so rigid as to maintain a clear cavity the size and shape given by a foetus at full term.

5. *Miller on Annular Laceration of the Cervix Uteri.*

—Dr. Miller was called to a primipara, aged 24, single. The labour was a natural one, the head presenting in the first position. The second stage lasted three hours and a half, the third took fifteen minutes. The whole labour did not occupy more than sixteen hours. The child was stillborn at full term. On the day following the birth a long shred of tissue was noticed projecting from the vulva. On examination, it was found connected with the anterior lip of the cervix. Pulse quick, temperature 100°. The next day the pulse was quicker, temperature 104°. No pain was complained of. On examination by the speculum, a portion of the anterior lip was found separated for a third of the circumference of the cervix. This was removed by hæmostatic scissors. The parts were afterwards irrigated with carbolic solution. By next morning the temperature was almost normal, and the patient made a rapid recovery. On examination eight days after the operation, the lacerated surface was almost whole.

6. *Parvin on Three Cases of Rupture of the Uterus.*

—Case 1: rupture from mal-presentation. Mrs. G., a stout healthy German woman, aged 40, mother of six living children, had been in labour forty-eight hours; pains had been active, but abruptly ceased; shoulder presenting; pulse 150; respiration hurried, countenance expressive of great distress and prostration. The rupture was upon the right side of the uterus, and the child had partly escaped into the abdominal cavity. There was no difficulty in turning and delivering. The child of course was dead, and the patient died five hours after delivery. Case 2: Rupture from foetal deformity, hydrocephalus. Mrs. C., aged 35, healthy, mother of seven children. First stage slow; pains became severe, and after a terribly intense pain, ceased altogether. The head was found excessively large, and was perforated,

evacuating a quart of fluid. Immediately after delivery of the placenta, Dr. Duzan, the attending physician, remarked the extreme pallor and prostration of the patient. He introduced his hand, and found a rent six inches long in the fundus and right side of the uterus. Patient survived only thirty-eight hours. Case 3: rupture from improper administration of ergot. Mrs. C., a robust Irish woman, aged 35, had had two stillborn children. A German midwife attended two hours after labour set in. Two hours after she called in a doctor. Two doses of a drachm each of the fluid extract of ergot were given at half an hour's interval. Pains frequent and severe for two hours, and then ceased. Three hours later, Dr. Bryan was sent for by the doctor. He found her with a feeble, rapid pulse, and with great abdominal pain, vomiting frequently. Introducing his hand into the vagina, he felt a fold of intestine, further up, the child's hand and head. The head and hand had escaped through a lateral rent in the uterus and vagina. Passing his hand into the uterus, he seized a knee, and delivered by version. Placenta followed; no prolapsed intestine could now be felt; uterus contracted. During the night the patient was allowed to get out of bed and sit in a chair for half an hour. She died four days after, neither Dr. Bryan nor the other doctor having been sent for.

8. *Ribemont on the Topographical Anatomy of the Fœtus.*

—Dr. Alban Ribemont has made transverse and vertical sections of the different cavities of the foetus. They form an atlas of thirty plates, containing seventy-nine figures. Transverse sections of the thorax in still-born children have been made, and are compared with those in which respiration has been effected after birth, as well as with those in which insufflation has been practised. In the same way the buccal and abdominal cavities are compared. The application of these conditions in the practice of obstetrics is discussed.

10. *Schramm on Pilocarpin in Eclampsia.*—In two cases of convulsions with albuminuria at the end of gestation, Dr. Schramm injected pilocarpin subcutaneously. The usual symptoms of depression, salivation, sweating, and diuresis, followed each injection. No labour pains were excited, and the labour in each case was induced by rupturing the membranes. Both patients recovered; no diminution of the albumen in the urine followed the injection of the pilocarpin. After delivery, the albuminuria disappeared in both cases. Dr. Schramm is, however, of opinion that "pilocarpin appears to be a capital remedy for the combating of eclampsia and dropsy".

13. *Studley on Fracture of the Pelvis by Forceps.*

—Dr. Studley relates the case of a lady, aged 31, in whom the pelvis was slightly contracted, and who had suffered from hip-joint disease when a child. At her labour at full term he, with the assistance of Dr. MacGregor, administered chloroform and applied the forceps. Dr. Studley made traction with the forceps first of all until he "became exhausted". Dr. MacGregor then took the instrument, and also made traction, until he was exhausted, but felt that the head had descended. Dr. Studley now took his place at the forceps for the second time, and continued "for at least twenty or thirty minutes", but, after being completely tired out, expressed the opinion that craniotomy was necessary. Dr. MacGregor thought he would like to make one more effort with the forceps. Shortly afterwards, when he was making powerful tractions, Dr. Studley heard two distinct smothered snaps. Dr. MacGregor

being again exhausted, Dr. Studley took the forceps for the third time and found, on passing his hand into the vagina, a sharp projecting piece of the pubic bone on the right side. Fracture had occurred through the pubic ramus on the right side. Dr. MacGregor now easily pulled a large child through, which only survived a few hours. On examination, the pubic ramus was found to be fractured obliquely, beginning about where the ascending ramus of the ischium meets it, and pursuing an upward and outward course into the obturator foramen. The soft parts were lacerated by the protruding pubic ramus up to the arch of the pubes. The pubic body was fractured about two inches from the symphysis. The patient recovered, and was gradually regaining, by the aid of crutches, the power of walking. Dr. Studley has determined, in the event of another pregnancy, to deliver by laparo-elytrotomy. [Induction of premature labour at seven months and a half would, in all probability, permit the passage of a living child, and, at the same time, involve no danger to the mother. We do not, therefore, see upon what grounds such a dangerous operation as laparo-elytrotomy should be ventured upon.—*Rep.*]

14. *Talbot on Intra-Ovarian Pregnancy.*—Mrs. M., aged 38, married twelve years, had always enjoyed fair health and had three normal labours. Her fourth and last pregnancy was attended with the usual symptoms during the first four months. About the fifth month, she noticed an enlargement towards the left side of the abdomen; at the same time, she began to experience severe spasmodic pains in the abdomen. Pain in the back was at times so severe as to cause complete syncope. Alarmed and anxious about her condition, she submitted, in the middle of September, to an examination by Dr. Murphy. He found an enlarged retroflexed uterus, into which the sound easily passed five inches. A tense resistant tumour was felt occupying the left pelvis. As there were general symptoms of pregnancy, a strong presumption of tubal or ovarian pregnancy was arrived at. Nothing was done beyond the administration of half-grain morphia suppositories by the rectum for the relief of the intense paroxysmal pain. Towards the end of the fourth month of gestation, Dr. Murphy was summoned one morning and found the patient in a state of collapse, with violent pains in the abdomen. Cold extremities, pallor of the countenance, excruciating abdominal suffering, clammy perspiration, extreme depression, a flickering pulse, and vomiting, were soon followed by death. The autopsy next day revealed about two pints of blood in the abdominal cavity. The enlarged ovary was enclosed between folds of the broad ligament. All the ovarian tissues were present. The fallopian tube was secured with the ovary. No portion of it was enlarged, as it would have been in a case of the tubo-ovarian variety. The specimen, as now seen in alcohol, shows the fimbriated extremity of the fallopian tube grasping the ovary at its upper and inner border, and of about normal size. About two inches in length of the tube, including the fimbriated extremity, was detached with the ovary. Careful microscopical examination of the mass of tissue near the rent in the ovary shows it to be true ovarian tissue. Particles of ovarian tissue in close continuity to the cavity containing the ovum were plainly seen. As regards the fœtus, the fontanelles in the child's head could be seen through the delicate membrane enclosing it. The finger could detect every portion of the child by pinching it up between the fingers; in short, the

case was one of pure internal ovarian foetation, in which the fœtus was entirely surrounded by ovarian membranes and imbedded in the gland, which progressively developed there up to the fourth month, when foetal rupture occurred. Examination of the uterus showed enlargement of the organ and congestion of the mucous membrane, but it was impossible to decide the presence of a true decidua.

15. *Tarnier on Extra-Uterine Gestation.*—M. D., aged 33, primipara, felt nothing abnormal until the end of August 1878, the eighth month of her pregnancy, when she was suddenly seized with severe pains in the abdomen. From this period the movements of the child, which had been previously perceptible, ceased. On October 15th there was a discharge of blood, which lasted two days. In December there was another similar discharge. In January 1879 the abdomen became tender, rigors set in, and her general health suffered. Her symptoms increased in severity until March 13th, when M. Tarnier decided to perform gastrotomy. The operation was carried out under Listerian precautions on March 21st. On opening the cyst, a putrid fœtus smelling most offensively was found attached to the bottom of the cyst by an arm. The arm was divided, and the portion left behind was secured by a ligature which was left outside the abdominal wound. The cyst was washed out, and four drainage-tubes collected into one bundle left in the wound. The patient died seven days after.

FANCOURT BARNES, M.D.

DISEASES OF CHILDREN.

RECENT PAPERS.

1. BOUCHUT.—On the Causes of the Formation of Clots in the Sinuses of the Dura Mater. (*Gaz. des Hôp.*, May 1, 15; June 5.)
2. DAY.—Case of Intestinal Obstruction in a Child. (*Brit. Med. Jour.*, May 3.)
3. EDIS.—Hæmatemesis in an Infant. (*Ibid.*, July 12.)
4. EPSTEIN and SOYKA.—A Contribution to the History of Bowel Obstruction in New-born Infants. (*Centralb. f. d. Med. Wissensch.*, April 26.)
5. FOX, T.—On Congenital Ulceration of the Skin, with Emphigus, and Arrest of Development. (*Lancet*, May 31.)
6. GOLDSCHMIDT.—A Case of Incarceration of an Inguinal Hernia, with Hydrocele: Symptoms of Obstruction for two days: Recovery. (*Centralb. Zeit. f. Kinderh.*, May 1.)
7. HENOCH.—On the Pathology of Tubercular Meningitis in Childhood. (*Ibid.*)
8. HAUKE.—On "Pneumatic" Treatment in Childhood. (*Fahrbuch f. Kinderh.*, xiii, s. 263.)
9. KENNEDY, H.—Notes on Diarrhoea in Children. (*Dublin Journal of Med. Science*, May.)
10. LEES.—Cases of Paralysis of the Serratus Magnus in Children. (*Lancet*, June 7.)
11. MACDONALD, K. N.—On the Therapeutic Value of Hydrocyanic Acid in the Night-cough of Children, after failure with the Bromides. (*Edin. Med. and Surg. Jour.*, May.)
12. MAX SCHAEFFER.—On Examination of the Larynx in Croup. (*Centr. Zeit. f. Kinderheilk.*, May 1.)
13. MILLER.—Cholera Infantum. (*Amer. Jour. of Obstetrics and Dis. of Women and Children*, April.)
14. NYMANN.—On the Incubative Period of Measles. (*Centr. Zeit. f. Kinderh.*, May 15.)
15. PARROT.—On the Osseous Lesions of Hereditary Syphilis. (*Lancet*, May 17.)

16. PICKLES.—Case of Intestinal Obstruction: Abdominal Section. (*Brit. Med. Journ.*, May 31.)

17. SÉE, G.—On the Diagnosis and Physiology of Tubercular Meningitis. (*L'Union Méd.*, May 15, 20, 31; June 3, 10.)

18. SIMON, J.—On Convulsions. (*Gaz. Méd. de Paris*, April 19, 26; May 3.)

19. STUART, ERSKINE.—Hæmatemesis in the Newly-born Child. (*Edin. Med. and Surg. Journ.*, June.)

20. TURNER.—On Summer Diarrhoea. Read at the Epidem. Soc. (*Brit. Med. Journ.*, May 31.)

21. WEIR MITCHELL.—Chorea treated by Salicylate of Soda. (*Boston Med. and Surg. Journ.*, March 27.)

22. WERTHEIMER.—On Pavor Nocturnus, or Night-terrors. (*Deutsch Archiv. f. Klin. Med.*, May, p. 564.)

23. WINCKEL.—A novel Children's Disease. (*Med. Times and Gaz.*, May 17.)

1. *Bouchut on Thrombosis.*—These lectures are a continuation with detailed illustrations of those on cachectic thrombosis and convulsions, abstracted in THE LONDON MEDICAL RECORD for June, 1879.

3. *Edis on Hæmatemesis in an Infant.*—This was a case of vomiting of blood mixed with milk in an infant of five days old. The cause was found to be an excoriation of the mother's nipple; it being coated with recently conglobated blood. The infant presented no indications of any internal disorder. The author quotes a similar case which occurred not long ago at the Lying-in Hospital. [The reporter can add a similar case in a child three weeks old, lately seen at Westminster Hospital.]

4. *Epstein and Soyka on Bowel Obstruction.*—This was a case of stenosis of the bowel from twisting of the mesentery in a child eight days old. On the fourth day after birth, the child was restless; on the fifth it vomited immediately after each time it sucked, and had thin fluid mucus—containing, but not bloody, stools. The epigastric region was on admission markedly blown out; the lower curvature of the stomach clearly made out through the abdominal walls, below which the belly was sunken and boat-shaped, and the coils of intestine were to be felt loosely rolled up like a ball. The superficial abdominal veins were very full. The vomited matters contained no blood, but bilirubin, and were tenacious and stringy. The motions were frequent, but not copious, and were very pale. On the second day after admission the child died. The whole mesentery of the small intestine was twisted spirally half a turn from right to left upon itself; the duodenum was much dilated in its first two portions; the inferior horizontal portion twisted upon its own axis by the twisting of the mesentery, so that at the part where the perpendicular portion passes into the horizontal, there was complete closure. The cæcum and colon were not in their normal places. There were no signs of old inflammation, so that any twisting of the intestinal axis in the foetal condition is not to be thought of. The reporter of the case inclines to the view that the torsion took place during the act of birth, which was very sudden; the child nearly falling on the floor.

7. *Henoch on Tubercular Meningitis in Childhood.*—The author considers that the only practical division of this disease into stages is that which gives a period of excitement and a period of paralytic symptoms. The duration of the disease is very variable, often scarcely eight days, and often as long as three weeks. A prodromal stage of a week or a month is not always recognised. Vomiting is one of the earliest and surest symptoms. It is repeated often

in the earlier days of the disease, but later it disappears, or occurs only in isolated attacks. The condition of the pulse is very varying. In nearly every case it is for a time slow and irregular, the irregularity being a symptom of great importance. Constipation is not a very reliable symptom. The author refers to cases which began with vomiting and diarrhoea, and were taken for cholera. The diarrhoea, however, stopped soon, while the vomiting persisted. The respiration is not much altered. The deep sighing inspiration, which is so important and certain a symptom, was noticed first in the cases observed at the onset of the second period of the disease. In the last twenty-four to forty-eight hours the Cheyne-Stokes breathing was almost constantly present. The accumulation of carbonic acid in the blood, in consequence of deficient respiration, and especially anæmia of the brain, are the causes of the final epileptiform convulsions. Henoch insists that tubercular meningitis must not be considered synonymous with basilar meningitis, as the purulent exudation and tubercles are not seldom seen on the convexity. Meningitis may even run its course without formation of tubercle on the pia mater, and if it succeeds to general miliary tuberculosis, will get the name of tubercular meningitis. The conspicuous symptoms are due to the inflammatory irritation of the pia mater, not to the formation of tubercle. General acute miliary tuberculosis may call forth cerebral symptoms, without participation of the pia mater; but these symptoms are very indifferent from those of tubercular meningitis. In the former case the fever is continuously high, and the regularity of the temperature curve may give rise to a confusion of it with that of "typhus" (? enteric), or the curve is irregular, and then shows decided remissions and exacerbations. Limitation of the eruption of tubercle to the pia mater, or the brain-substance, to the exclusion of other organs, is very rare, and, when it is reported, gives rise to suspicion that the examination has not been thoroughly made. Tubercles are generally found in the spinal cord, and caseation of the bronchial glands or other organs is almost always seen. Out of eighteen cases, only once was the latter appearance not present. In about half the cases tubercle or caseation was found in the lungs, pleura, liver, or spleen. Tubercle of the choroid is by no means constant.

10. *Lees on Paralysis of Serratus Magnus.*—Two cases of marked paralysis of this muscle, in connection with others, in infantile paralysis, were brought before the Clinical Society on May 23 by Dr. Lees. He remarked that paralysis of this muscle was a rare condition.

11. *Macdonald on Hydrocyanic Acid in the Night Cough of Children.*—The author of this paper has found that hydrocyanic acid has been useful in quickly arresting a case of this affection of sixteen months duration in forty-eight hours. The affection has been described by Vogel, and has been acknowledged by Dr. West to be of nervous origin, as it occurs almost exclusively at night, seldom attacks infants under one year of age, and is perhaps most frequent between the ages of three and six. It is a dry and harassing cough, with little or no expectoration, dyspnoea, or any physical signs to indicate lung complication, and occurs almost exclusively at night, after a few hours' sleep. The author thinks that this cough may be occasionally heard during the day, and as a rule in such cases there is more or less enlargement of tonsils, with elongation of uvula and

a very irritable state of the glottis ; and when these parts become relaxed, during the first hours of sleep, a titillation is set up by reflex action through the laryngeal branches of the pneumogastric nerve, which induces those strange paroxysms of cough. The case narrated is an interesting one, and seems to point to the remedy used as of some value. It was prescribed as follows :—*R.* acid hydrocyan. dil. ℥ viij ; syrapi simpliar. 3ij ; aq. destill. 3ij ; one teaspoonful every four hours. This dose was increased to a teaspoonful and a half every three hours. When a paroxysm of cough came on it ceased suddenly five minutes after each dose. The cough disappeared within forty-eight hours from the commencement of treatment, and within a week it was evident that a cure had been effected. The author calls attention to the necessity of exercising caution in administering this remedy to children, and of impressing upon the attendants the importance of adhering closely to directions.

12. *Max Schaeffer on the Larynx in Croup.*—In this paper Dr. Max Schaeffer of Bremen gives the details of several cases of "croup", with especial reference to the observed existence of false membrane. His observations lead him to the same conclusion with Dr. Baginsky of Berlin, viz., that the dyspnoea of croup is to be explained as arising from purely mechanical causes. The author lays down the proposition that the dyspnoea increases in relation to the extension and thickness of the membrane, which naturally would render a child's larynx impermeable sooner than that of an adult.

15. *Parrot on the Osseous Lesions of Hereditary Syphilis.*—The following is a short abstract of the interesting communication made by M. Parrot to the Pathological Society on May 6. The paper should be read *in extenso*, as its condensed character ill admits of abbreviation. Syphilitic changes occur in the skeleton, as in the skin, in an immense majority of cases of hereditary syphilis. It is rare for the whole skeleton to be attacked, and certain parts are much more often so than others. These are the long bones of the limbs, and the maxillary bones ; then those of the skull-cap, the ribs, the scapulæ, and the iliac bones. The vertebrae and the bones of the foot and hand are less frequently attacked. In this paper, the bones of the limbs and of the skull only are dealt with. Their lesions have a characteristic seat and appearance. They are of two chief kinds ; one consisting in the atrophy of pre-existing tissues, the others in the development of new products. *Atrophy.*—This has two forms ; the first, much the most frequent, occurs equally on skull and limbs. The author names this *gelatiniform*, because the parts attacked take on the appearance and consistence of a very aqueous fruit jelly. The second form is called *chondro-calcareous* atrophy. In this form, the normal thin layer of cartilage, encrusted by lime salts, which intervenes between the osseous diaphysis and the cartilage, attains an unusual thickness, and loses all regularity in its boundaries. This denotes an arrest of ossification. The portion of cartilage bordering on the diaphysis, instead of being transformed into bone, remains in the state of cartilage, hardened and eburnated by the presence of calcareous salts. Both forms of atrophy lead to a diminution of the solidity of the bones they attack. Each may determine fracture of bones ; and, when they occur combined, such a result is nearly certain to take place. This fracture of bones differs from that observed in the rachitic period of syphilis, especially in its seat ; for, whilst in this latter case it

takes place very nearly at the middle of the bone, in the other it occurs not far from the epiphysis ; this being in relation to the place where the atrophic lesions producing it are developed. When the separation of the fragments is advanced their friction produces irritation, and occasionally intra- and periosteal abscesses, and suppurative arthritis. These fractures produce quite a special form of weakness, which M. Parrot has termed syphilitic pseudo-paralysis, because it simulates paralysis of nervous origin, and has often been confounded with such. The muscles, however, respond completely to electricity. *Osteophytes.*—The second, or *osteophytic* change in the skeleton, is much more frequent. There are two varieties : the first, in which the tissue presents a bony hardness, is termed *osteoid*, and may occur at all ages ; the second, in which the tissue is fibroid or spongoid, called the *rachitic*, which is never developed except in subjects more than five or six months old. Amongst the bones of the limbs, those in which the change occurs most frequently and regularly are, firstly, the humerus and the tibia, which deserve a place apart ; then the femur and the ulna. On the humerus, without exception, it is the lower part of the diaphysis which is attacked ; and in a much more marked manner the nearer the cartilage is approached. It is in the posterior aspect that the thickness of the osteophyte is most considerable. On the tibia, the osteophyte is generally developed on the inner aspect, and its greatest thickness is at the middle part of this surface. In a general way, it may be said with regard to the long bones, that the pathological layers are especially thickened and ensheathing in that diaphysial extremity which grows the less rapidly. The constant seat of the osteophytes allows of their recognition during life, and they thus form a very valuable element in diagnosis. In examining the humerus, it suffices to seize its lower end between two fingers, so that one is applied on its anterior and the other on its posterior surface. Then it is found that their extremity exceeds its normal limits in thickness. For the tibia, the ball of the finger must be passed along its inner surface, which, instead of being flat, presents a kind of arch. For a detailed description of the structure of the osteophytes the reader is referred to the original paper. The author points out that, in the rachitic or *spongoid* form, there often results a large swelling of the articular ends of the bones, and that forms one of the best signs of the rachitic variety of hereditary syphilis. Grave results occur from these changes : *e.g.*, curvatures, partial or complete fractures, and deformities of all kinds of limbs, vertebral column, and thorax, with corresponding disturbances of function. In the greater number of cases, by reason of those changes which the evolution of the skeleton (so rapid at this age) actively favours, all traces of the disease disappear. But it is not always so, and there are some upon whom indelible marks of the disease remain. In this category are torsions, curvatures, fractures with all their consequences, and even osteophytes, notably when these are seated on the cranial bones. In the cranium, gelatiniform atrophy is rare ; but it is to be seen in very young infants. It begins under the periosteum, and rarely reaches down to the dura mater. The thinned-out surface resembles worm-eaten wood or cloth. The diagnosis of this cannot be made during life. The cranial osteophytes have a great practical interest. Never observed at the same time with gelatiniform atrophy, they are only developed in older children. They occur at the commencement, always in the same

points, *i.e.*, on the frontal and parietal bones around the anterior fontanelle; more rarely they start from the temporals. They are very rare on the orbital arches and the occipital bone. They are only observed when the disease is of great intensity. The cranial osteophytes are peculiar to hereditary syphilis; they determine morphological changes nearly always to be appreciated during life. One is very common and characteristic. It consists of two or four eminences disposed around the fontanelle, and separated by two furrows in the form of a cross, the one transverse, the other antero-posterior. The author has termed the skull thus deformed *natiform*. In its spongoid period, hereditary syphilis leads to plagio-cephalus and cranio-tabes. Both these conditions are brought about secondarily by decubitus. Cranio-tabes is often seen without syphilis, but syphilitic rachitis, combined with decubitus, provokes it in the surest and most marked manner.

18. *Simon on Convulsions.*—These lectures are devoted to the subject of eclampsia in children. One of the chief points worth noticing is the author's statement of the value in prognosis of a very large flow of urine, as announcing the end of a prolonged attack of convulsions. The general account of the causes and symptoms of convulsions in children is clearly given. With regard to general prognosis, M. Simon considers eclampsia attacks to be not serious. To give a prognosis in special cases, one must have definite facts to go upon. As a rule, convulsions at the outset of fevers are not serious, while those at the end are almost always fatal. Similarly with whooping-cough, and in all cases where the cause of the convulsions lies in the vitiation of the blood, the gravity of the prognosis increases with the close following of the convulsions one upon the other, and generally is in proportion to the intensity of the attacks. The author differs from Trousseau as regards treatment, considering it to be of great use. Much can be done in prevention, by the avoidance of known causes, and by the use of warm baths and bromide of potassium in cases predisposed to this affection. When called to a child in convulsions, M. Simon first gives a purgative enema and then an emetic. The attack continuing, a mustard bath is given, followed by repeated small doses of a draught containing bromide of potassium, cherry-laurel water, syrup of ether, and syrup of codeine.

23. *Winckel on a Novel Children's Disease.*—At the Congress of children's doctors recently held in Berlin, Professor Winckel, the Director of the Royal Lying-in Institution of Dresden, communicated some observations he had made upon an apparently novel children's disease occurring in that institution. An epidemic of it broke out towards the end of March last. Of twenty-three children attacked, nineteen died, and the average duration of illness in the fatal cases was thirty-two hours. The illness began with a sudden stupefaction of the patients, the respiration became hoarse, accompanied with groaning, and occasional foaming at the mouth. One remarkable feature was a change in the blood. Dr. Winckel made incisions in some cases, but it was only by using pressure that blood could be extracted. It was then found to resemble a thick brown-black fluid, of the consistency of a syrup. The body became flaccid, the liver much swollen, eventually convulsions supervened, during one of which the child expired. It was suggested by Dr. Gerhardt of Würzburg that this new disorder should be designated Winckel's disease. Professor Winckel gave the disorder the

name—"cyanosis afebrilis icterica perniciosa cum hæmoglobinuria". HORATIO DONKIN, M.B.

DERMATOLOGY.

RECENT PAPERS.

1. RAYMOND and NÉLATON.—Erythema occurring in the course of Typhoid Fever. (*Progrès Médical*, No. 19, 1878; abstracted in *Revue des Sciences Médicales*.)
2. GRELLETY, L.—The Treatment of Psoriasis by Chrysophanic Acid. (*Lyon Méd.*, 6 Octobre, 1878.)
3. KLEINWARCHTER.—Pemphigus in the Vagina. (*Prager Med. Wochens.*, No. 6, 1878.)
4. OSCAR WYSS.—A Case of Tubercular Leprosy. (*Corr. Bl. f. Schweiz. Aerzte*, No. 4, p. 109, 15 Feb. 1878.)
5. LETURC.—On the Nature and Treatment of Alopecia Areata. (*Thèse de Paris*, No. 363, 1878.)
6. VIDAL.—Vegetable Parasites in Certain Kinds of Pityriasis. (*Gaz. Méd. de Paris*, No. 4, 1879.)
7. CAMPANA.—Erythema Nodosum. (*Movimento Med. Chirurg.*, 1878.)
8. FRASMUS WILSON.—Lectures on Dermatology, 1876-78.
9. MORROW, P. ALBERT.—Urticaria Pigmentosa: Report of a Case. (*Archives of Dermatology*, January 1879, vol. v, No. 1.)
10. HARLINGEN, ARTHUR VAN.—A Case of Ulcerative Scrofuloderm. (*Archives of Dermatology*, April 1879.)
11. GIBNEY, V. P.—A Case of Scleroderma vel Morphœa, with Hemiatrophia Facialis, Alopecia Areata, and Canities. (*Ibid.*)
12. MORROW, P. A.—Case of Morphœa. (*Ibid.*)
13. KAPOSI.—On Chrysophanic Acid or Chrysarobin and Pyrogallie Acid. (Abstract in *Archives of Dermatology from Wien. Med. Wochens.*, 44, 45, 1878.)
14. VIDAL.—On the Inoculability of Molluscum Contagiosum. (Abstract in *Archives of Dermatology* for April 1879.)
15. TANTURRI, V.—Two Cases of Sclerema Adulorum. (*Giornale Internazionale delle Scienze Mediche*, 1879, p. 172.)
16. AUDOUARD and MALASSEZ.—Acne Sebacea: its Transformation to Cancroid. (*Gazette des Hôpitaux*, 1879, No. 34.)
17. Blackness of the Tongue. (*Gazette des Hôpitaux*, 1879, No. 28.)
18. Report on the Leper Asylum at Mahaica for the year 1877. (Report to H. M. Government.)

1. *Raymond and Nélaton on Erythema in Typhoid Fever.*—Three cases are reported in which erythematous patches and papules of various sizes occurred during the course of the disease. In one, the rash appeared early, and in two others, on the 15th day. The seat of the eruption, which lasted from two days to a week, was on the neck, chest, back, and extremities. It was followed by desquamation.

2. *Grellety on the Treatment of Psoriasis by Chrysophanic Acid.*—Confirmatory of the now abundant evidence of the curative effect of chrysophanic acid.

3. *Kleinwarchter on Pemphigus in the Vagina.*—The patient was the subject of pemphigus, which chiefly affected the limbs. The vaginal mucous membrane was red, and there was much secretion. At its upper part, a number of points were denuded of epithelium, although covered here and there by membranous flakes. On the cervix uteri around the os, were half a dozen vesicles of the size of the head of a pin, filled with clear fluid.

4. *Wyss on Tubercular Leprosy.*—The patient, a man aged 40, had been a number of years in Java.

The disease showed itself five years after he had returned to Europe.

5. *Leturcon Alopecia Areata*.—The treatment, which is that recommended by Dr. Vidal, consists principally in shaving the scalp every two days, and blistering until pain is produced every five or six days.

6. *Vidal on Vegetable Parasites in Pityriasis*.—M. Vidal and M. Malassez have studied the nature of the parasite found in eczema marginatum (Hebra). They believe it to be distinct from that of the trichophyton and microsporon.

7. *Campana on Erythema Nodosum*.—The following appearances were found on microscopical examination: slight swelling of the bundles of connective tissue, infiltration of lymphoid elements between the bundles and around the vessels, glands, and follicles; and small sanguineous effusions into the connective tissue-spaces without evident lesion of the vessels.

8. *Erasmus Wilson on Eczema Marginatum*.—The nature of eczema marginatum (*lichen marginatus*, Wilson), the methods of treating it, and the facility by which a cure can be obtained, provoke such different opinions amongst dermatologists that the following extract from Professor Erasmus Wilson's *Lectures on Dermatology*, 1876-7-8, p. 70, is inserted in the abstract. "The remedies the most suitable for its treatment, Mr. Wilson observes, are strong tincture of iodine, ointments of iodide of sulphur, nitrate of mercury, and ammoniated mercury, a solution of chloride of zinc, of perchloride of mercury, and preparations of tar. These, when diligently rubbed into the prominent ridge which forms the boundary of the eruption, will frequently remove it; but all writers on the subject have agreed that there is nothing more difficult. It is in the treatment of lichen marginatus that Goa powder, the acetum and unguentum ararobæ, or chrysarobine, and the preparations of the latter, have obtained a reputation, but in my experience this South American remedy is as little trustworthy as the rest."

9. *P. A. Morrow on Urticaria Pigmentosa*.—The case which is described under this name, the author believes to belong to the class of cases recorded by the late Dr. Tilbury Fox (as *Xanthelasmaidea*), Mr. Baker, Dr. Barlow, and Dr. Sangster in the *Clinical Society's Transactions*. The eruption began when the child was six months old. When seen at the age of two years the spots varied in size from that of a pea to a ten cent. piece. They were distinctly elevated, and papular or tubercular in character. They covered the face and entire body, but were most abundant on the back and over the flexures of the joints; a few could be seen on the palms of the hands and soles of the feet. Ordinarily they were of a pale-yellowish colour; but when the child cried or became excited, they changed to a reddish or bright scarlet hue. The elevations could be plainly felt by the finger passed over the surface. When violently rubbed or scratched, the elevations became more marked, and the surface appeared as if nettled. After nearly two years a marked change had taken place in the character of the eruption. "Only two or three of the tubercular prominences (it is then noted) are to be seen; but the pigmented spots are more thickly disseminated. . . . On the trunk the finger cannot be placed upon a sound portion of skin. The spots have coalesced at their margins and lost their distinctive form, exhibiting a configura-

tion altogether *bizarre* and impossible to describe. On the limbs the spots are abundant, but generally discrete. The mucous membrane of the palate and fauces is seen to be occupied by those spots, although the yellowish hue characteristic of the surface-eruption is wanting. The slightest irritation of the skin in this child would develop wheals, the morbid sensibility being heightened in patches of diseased skin. The eruption has not materially affected the child's health, and he is well-nourished and unusually well developed for his age, being subject, however, to severe attacks of epistaxis." Dr. Morrow is uncertain whether any spots have disappeared. [The name *urticaria pigmentosa* implies a pathological theory which is not only unsupported by evidence, but is directly at variance with the evidence at present existing in reference to this question. The condition of the skin in the only case in which death has occurred (Mr. Baker's case) is described by the reporter in the 10th volume of the *Clinical Society's Transactions*. In that case the microscopic examination shewed neither pigment nor simple oedema (urticaria), but on the contrary, extensive destruction of tissue, and a "granulation cell" growth. Dr. Robert Lee's suggestion (at the meeting of the Clinical Society when the reporter's paper was read), that the disease is a rare form of the "Scrofulide", has not only much to recommend it from the clinical point of view, but has the merit of recognising the claims of morbid anatomy in the classification of disease.—*Rep.*]

10. *Von Harlingen on Ulcerative Scrofuloderma*.

A woman, aged 70, had suffered from skin disease for twenty years, which began by gradually increasing roughness of the skin of the legs. When examined after that period of duration of the disease, a casual inspection of the surface gave the impression of a universally diffused affection of the skin. Only the palms and soles, and the tip of the nose, appeared free. The prevailing tint of the integument was brownish red, except upon the legs, where it was ashen gray. In most places it was rough and scaly. The active lesions were in great variety, presenting the form of erythematous or scaly patches, papules, ulcers, nodules. The initial lesion was a papule. Papules coalesced into patches, which broke down, becoming transformed into ulcers, which were constantly covered with thick greenish crusts. The patient died exhausted by suppuration. Calcareous nodules were found in the lungs. There was "uniform" cell infiltration in the corium—that is to say, the cells were not grouped. The author is inclined to regard the case as one of a hitherto undescribed disease, and as he is not prepared to offer any name for the affection, he has designated it "an ulcerative scrofuloderma".

11. *Gibney on Scleroderma vel Morphæa*.—The disease began at the age of three by a dirty brown discoloration in the left inferior maxillary region. At the age of nine, there was marked atrophy of the left side of the face, to the left of the posterior fontanelle a large lock of grey hair (scalp from which it grows normal), baldness in left fossa, left buttock flattened with *plaques* of morphæa which extend down the back of the leg to the foot (front of the leg presenting nothing abnormal). The outer hamstring is tense; foot drawn into perfect valgus, with moderate equinus. Lower limbs equal in length, but the left measures less in circumference than the right; the difference increasing as growth progresses. In the umbilical region to the right of the median line a morphæa patch 5 ins. × 1½. [Further de-

tails regarding the patch of baldness, diagnosed as alopecia areata, would be of interest.—*Rep.*]

12. *P. A. Morrow on Morphæa*.—The temperature of a patch of the characteristic lardaceous-like skin "carefully tested with a Stewart's clinical thermometer was found to be raised .8th of a degree above that of the adjacent normal skin, as well as that of the corresponding portion of the left arm".

13. *Kaposi on Chrysophanic Acid*.—Kaposi refers to the investigations of the chemist, C. Liebermann of Berlin, showing that the acid obtained in such large quantities from Goa powder is not chrysophanic acid, as has been supposed by Squire, but a neutral chemical substance (chrysarobin) which stands in close relation to it. Kaposi has found that a 10 per cent. ointment of pyrogallic acid with vaseline has an efficient action in psoriasis—not so rapid as that of chrysarobin (chrysophanic acid), but better tolerated. It can be applied to the face. Kaposi has also used the strong acid as a caustic, and claims that its action is quite painless. In cases of epithelioma of the face, it was found to remove the diseased portions of tissue as thoroughly as arsenical paste, and did not affect the sound parts.

14. *Vidal on the Inoculability of Molluscum Contagiosum*.—In proof of the inoculability of molluscum contagiosum, Vidal gives two cases, in one of which the characteristic tumour appeared three months, and in the other six months, after inoculation.

15. *Tanturri on Sclerema Adultorum*.—One of the cases fatal. An examination of the skin leads the author to distinguish two well marked stages, the first being marked by a circumscribed soft infiltration which precedes that of the sclerosis. In the confirmed disease there is an absence of blood in the papillary layer.

16. *Audouard and Malassez on the Transformation of Acne Sebacea to Cancroid*.—In an editorial, reference is made to investigations by Audouard and by Malassez which the authors believe to show a development of epithelioma from the sebaceous glands. The importance of the conclusion drawn will no doubt lead to a further and more detailed account of the appearances observed.

17. *Blackness of the Tongue*.—An intermittent blackness of the tongue was found associated with an abundant formation of spores between the papillæ; nature of the spores not yet determined.

18. *Leper Asylum at Mahataca*.—Of thirty-two cases treated by gurjun oil, twenty-five were greatly benefited.
G. THIN, M.D.

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. BULL, C. S.—Case of Syphilitic Tarsitis. (*New York Medical Journal*, Sept. 1878.)

2. GALEZOWSKI.—Ophthalmic Migraine. (*Archives Générales de Médecine*, June 1878.)

3. M'KEOWN.—Extraction of Metallic Chips from the Eye of the Magnet. (*Lancet*, Aug. 1878, p. 253.)

4. TORRANCE.—The Treatment of Tinnitus Aurium. (*Brit. Med. Jour.*, May 1879, p. 700.)

5. WEIL.—Reflex Action in the Organ of Hearing. (*Monatschrift für Ohrenheilkunde*, June 1878.)

1. *Bull on Syphilitic Tarsitis*.—Dr. C. S. Bull remarks on the rarity of syphilitic infiltration of the eyelid, and, after referring to cases lately published, reports a case which occurred in his own practice. Michel describes the affection as a chronic indolent infiltration of the tarsus which does not involve the skin. Magawly has published four cases. In two of these, the lower lid was involved in a non-fluctuating tumour as big as a small pigeon's egg. In the other two cases, the upper lid was affected. In 1873, Vogel wrote a treatise on perichondritis of the tarsal cartilage, in which he reports a case characterised by marked swelling and redness of the lid of the left eye appearing eight years after the primary one. The swelling entirely disappeared after seven weeks' treatment by iodide of potassium. Fuchs has reported (*Klinische Monatsblätter für Augenheilkunde*, January 1878) three cases met with in Arlt's clinique during the last four years.

The particulars of Dr. Bull's own case are as follows. The patient, a male, aged 27, applied for treatment in November 1877, on account of heaviness, swelling, and redness of the lower lid of the left eye, which had been first noticed six weeks previously. When seen by Dr. Bull, the lid was much swollen, forming a tumour the size of a robin's egg. The tumour was hard, solid, and painless. The skin was much reddened, and the conjunctiva somewhat so. A satisfactory history of primary syphilis four years before, for which he had had no systematic treatment, was made out. The treatment now adopted consisted in the application of mercurial ointment to the soles of the feet daily, and the internal administration of 15 grains of iodide of potassium three times a day. In ten days, the swelling began to soften, and at the end of the third week had considerably diminished. The mercury was now discontinued, and the dose of iodide increased to 30 grains. By the end of the sixth week the eyelid had become normal, and a fortnight later the patient was discharged cured.

ARTHUR COOPER.

2. *Galezowski on Ophthalmic Migraine*.—Dr. Galezowski contributed to the June number of the *Archives Générales de Médecine* a paper on ophthalmic migraine, or, to use his own definition, "migraine which localises itself in the organ of sight". Many authors, English, French, and Italian, have mentioned the occurrence of ocular phenomena as occasional accompaniments of ordinary migraine, but Dr. Galezowski considers that in a certain number of cases these ocular phenomena constitute the whole symptomatology of the morbid state, and appear to depend on a special localisation of the neurosis in question.

He has observed, hitherto, only four varieties of ophthalmic migraine—1, periodic hemiopia; 2, glittering scotoma; 3, amaurosis; 4, photophobia. Each of these varieties usually presents, in addition to the symptom from which it takes its name, either some more or less well marked symptoms of ordinary migraine, or else symptoms peculiar to ophthalmic migraine.

There are, however, some cases in which there exists but one single symptom, without anything else whatever to suggest that the case is one of migraine. For instance, when a periodic hemiopia, or a central

periodic scotoma persists, as it may do, for some time, the diagnosis becomes very difficult, and it is impossible to speak confidently as to the nature of the disease without a most attentive examination into the previous history and the general state of the patient's health. It will often be found in these cases that the ocular phenomena have been preceded by, and have apparently taken the place of, frequent attacks of ordinary migraine. When the periodic hemiopia or scotoma is frequently repeated, the case becomes disquieting, for all work requiring steady application becomes impossible. A great variety of circumstances may add to the difficulty of the diagnosis in cases of ophthalmic migraine, such as the following. 1. The patient had, not long before the eye-symptoms came on, received a blow on the head. 2. One eye may be reduced to a stump, or the patient may be suffering from general staphyloma. 3. The attack may be complicated by the almost simultaneous occurrence of hysterical amblyopia, and this, Dr. Galewski says, is not very uncommon. Dr. Bonnal, of Nice, relates the case of a man aged 40, who had been subject since he was 13 years old to periodical attacks (every three or four months) of strabismus and dimness of sight, accompanied by epileptiform symptoms without loss of consciousness. These attacks diminished very much in frequency and violence after he had taken service in the Hammam at Nice as a rubber.

W. ALLEN STURGE, M.D.

3. *M'Keown on Extraction of Metallic Chips from the Eye of the Magnet.*—Dr. M'Keown records two cases where the eye was saved from destruction by the early use of the magnet to extract deeply seated pieces of iron chips. Dawson B., aged 24, wounded his right eye, three days previously to being seen, with a small piece of metal. The iris was attached to the lens by recent lymph, and a small clear metallic body was sticking at the margin of the adherent pupil. The body was seized by a fine pair of forceps introduced through the cornea, but slipped out of the grasp. A small pointed magnet was then introduced through the wound, which instantly attracted the metal and easily withdrew it. Recovery was rapid.

In the second case, a millwright aged 32 wounded his eye with a chip of steel, three-quarters of an hour before being seen. A wound, about a line in length, was seen in the ciliary region, but no foreign body was visible. A pointed magnet, cautiously introduced, detected the presence of metal which was soon exposed sufficiently to be seized by the forceps and withdrawn. In a fortnight the eye was quite well.

Dr. M'Keown refers to a paper read before the Clinical Society last March by Mr. Hardy. In the case there reported, a chip of steel was withdrawn by a magnet after having been lodged for seventy-two hours upon the anterior surface of the lens.

4. *Torrance on Treatment of Tinnitus Aurium by Incising the Membrana Tympani.*—Mr. R. Torrance reports a successful case of the above mode of treatment. The patient, advanced in years, complained bitterly of noises in the head, and felt they would drive him mad. As he had been stone deaf in the left ear for a long time, Mr. Torrance determined, after failure of all other treatments, to incise the tympanic membrane behind the handle of the malleus; when, greatly to the mutual pleasure of doctor and patient, the hearing distance was increased to two inches, and the noises so diminished as to be endurable. [In the *Medical Times*, March 1851, p. 347, Mr. W. R. Wilde, in the course of a

series of admirable lectures on diseases of the ear, alludes to the curative value of this mode of treatment in severe cases of tinnitus aurium.—*Ref.*]

RICHARD NEALE, M.D.

5. *Weil on Reflex Action in the Organ of Hearing.*—Dr. Weil finds that temporary relief from tinnitus may frequently be obtained by blowing in puffs through a simple tube or a Siegle's speculum on to the walls of the meatus. Many patients thus obtain partial or complete relief from the noise for a quarter or half an hour. In some cases the noises were increased by this proceeding, usually in persons complaining of ringing and whistling sounds. In those suffering from a dull noise, a good result was rarely absent; but, if the blowing was too prolonged or too forcible, the noise sometimes changed to a high clear tone. In some individuals no reaction was obtained. As the author thought of reflex contraction of the blood-vessels, he endeavoured to make the effects permanent by means of injections of ergotine, but without definite result.

E. CRESSWELL BABER, M.B.

NEW INVENTIONS.

THE MATLOCK INVALID COUCH AND BED-REST.

MESSRS. CHORLTON and DUGDALE merit the thanks of the invalid world, unfortunately but too large a section of the community, for the introduction of this new couch and bed-rest. An ingenious adaptation of the flattened spiral springs, already so favourably known to the public in the 'Excelsior' spring mattress, has resulted in the production of a very comfortable, light, cleanly, and presumably durable, appliance. These qualities will add materially to the ease of invalids and convalescents requiring change of position, and collaterally to the relief of those engaged in tending them and ministering to their comforts.

STRUTT'S ABSORBENT WOOL.

The attention of surgeons, dentists, and others, has for some time been directed to the desirability of employing an absorbent wool for surgical dressings. The wool usually employed, and which has for many years been so largely in use for a great variety of surgical purposes, has long been manufactured of the best quality by Messrs. W. G. and J. Strutt of Belper, who in this, as in other branches of woollen manufacture, have a world-wide reputation. They have now succeeded in producing a perfectly pure and highly absorbent wool which will at once be recognised by every surgeon who tries it as very superior in value to the ordinary cotton-wool hitherto employed; by reason of its extreme purity and high absorbent power, its freedom from grease of any kind, and its lightness and antiseptic character. It is well known that, if ordinary wool is thrown upon the surface of water it will float for a length of time without becoming wet. The pure absorbent cotton-wool now prepared by Messrs. Strutt, if thrown into water, immediately absorbs it and sinks to the bottom. This peculiar property of rapidly absorbing moisture, combined with its extreme purity, renders this material one of which the surgical value will be widely and quickly recognised. For quality, purity, and reasonableness of price, this

material can hardly be equalled, and certainly not excelled.

THE BRIGHTON PATENT "EXCELSIOR" WATER-CLOSET.

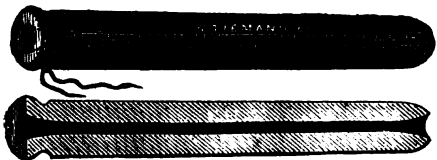
The special characteristic of Mr. Bostel's invention is its simplicity and absence of liability to get out of order. The outlet of the pan is at the back, the proper place, and it has no fittings whatever. It is so arranged that it is efficiently flushed with two gallons of water, thus complying with the regulations of most water companies; the apparatus for admitting the water being altogether separate, and if it perchance should go wrong, or the supply of water fail, a quantity thrown in from a pail would be sufficient of itself to clear the closet. These qualities of simplicity, efficiency, non-liability to derangement in working, and moderation in price, entitles Mr. Bostel's "Excelsior" Closet to a share of the patronage of the public, of sanitary engineers, and builders. These closets are to be seen in action at the patentee's, Mr. Bostel, of Duke Street, Brighton.

DESCRIPTIVE REPORT OF SURGICAL INSTRUMENTS,

RECENTLY INTRODUCED BY BRITISH AND FOREIGN MAKERS.

SÜSSDORFF'S NEW DRAINAGE-TENT.

The expanding part of these tents is made of compressed tupelo, the drainage part of a tube of pure stannum, which runs through the centre of the tupelo. The tube is funnel-shaped at both extremities, to admit of easy entrance and exit. In this combination there is expanding force and drainage, whereby the benefits of dilatation may be obtained with none of the dangers from retained secretions. Another advantage this instrument possesses over other tents consists in its being self-retaining. By referring to the illustration, it will be observed that the cord attached to one end of the tent does not pass *through* its substance, but surrounds it, being



let in by a shallow groove. This arrangement prevents the tupelo from swelling where the cord is tied, and for a short distance beyond, giving the tent when fully swelled a shape something like an egg. When *in situ* the external os is therefore comparatively but little dilated, to the upper parts of the cervix, so that the tent is held in place by the tissues alone. It is scarcely ever necessary to apply other support to keep it in place, except in some cases of prolapsus.

The instrument was originally constructed for the purpose of applying dilatation to the cervical canal during the menstrual molimes for the cure of dysmenorrhœa, where it has proved very useful. Its principal qualities are as follows:—1. The drainage-

tents are easily introduced, being smooth and firm. 2. They do not fall out of place, as they quickly absorb moisture and become conical, or egg-shaped. 3. They are probably of antiseptic nature, or at least will not decompose the fluids with which they come in contact, and, being purely vegetable, have none of the offensiveness of sponge and sea-tangle. 4. The rapidity with which they expand when in contact with the tissues and secretions of the parts, is perhaps one of their chief advantages. 5. The firm and even pressure they exert is well calculated to exercise a pronounced alterative influence, being superior in this respect to the others. 6. They will not break or fracture when moist, nor will they peel off and leave small particles adherent to the tissues. If gentle and steady traction is made upon the cord attached for a few moments, no difficulty will be encountered in removing them, or injury to the parts inflicted. Made by Tiemann and Co., 67, Chatham Street, New York.

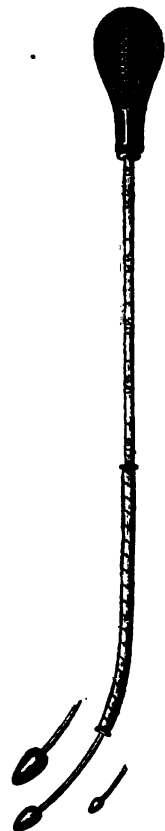
LEONARD'S UTEROMETRIC SOUND.

The total length of this instrument is 12 inches; the shaft is made of the best untempered steel. It has a sliding steel ribbon, and the depth is read from the proximal end of this, when the distal end of the ribbon is against the os, the olive head being at the fundus.

The particular new feature of this instrument is the *bougie à boule* movable heads. These are made of German silver, and are in sizes from No. 11 of the French scale up to No. 24, corresponding to Nos. 7 and 16 of the American scale. By being made of different metal than the shaft, the screw threads will not readily cut or wear out. The olive-points are also drilled at the base, so that a silk thread can be inserted, and in case of any accident, whereby one of the larger sized points should become broken off in the uterine cavity, it can be easily withdrawn by the thread.

These bulbs are not only useful as a means for diagnosis, but also serve excellently as dilators. You can readily change from the usual size, No. 11 or 12 of the point, to one the next larger, and so on, till No. 18 or 20 is inserted in any nulliparous uterus and with but little discomfort to the patient; thus effectually relieving the dysmenorrhœa dependent upon a narrowed canal. It is a much safer and less painful way than using tents.

However, aside from this, as a diagnostic instrument it is to be found of the greatest value; indeed, by no other instrument can the same definite results be obtained. You can not only measure the length of the uterine canal, but can also definitely measure its diameter at all points by the use of the different sized olive heads; you can thus locate exactly any narrowing or stricture, and also at the same time determine the size and the length of the same, certainly an important



desideratum before any operation is performed to relieve it. Made by Tiemann, 67, Chatham Street, New York.

COLEMAN'S METRO-CYST.

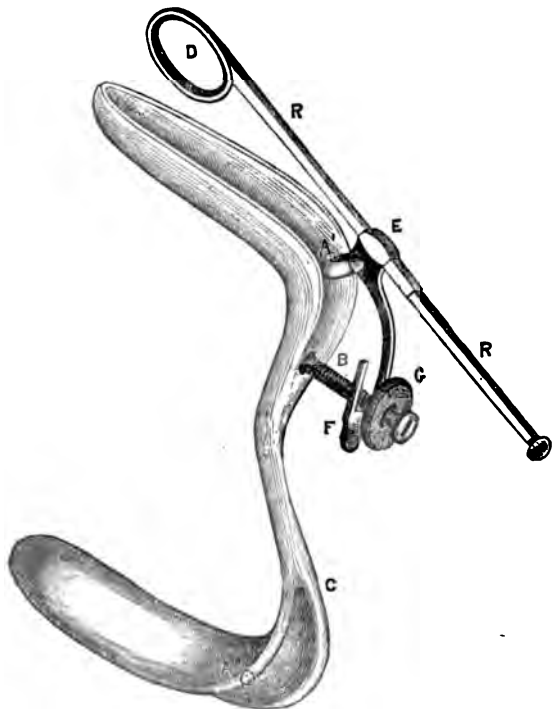
This instrument consists of a wire frame and rubber tubing. It was originally devised solely for the use of tincture of iodine in the treatment of hæmorrhage in abortion, but has proved very useful



in the treatment of chronic endometritis, suppurating fibroids or polypi, and in many instances where antiseptis is required. It is made by Messrs. John Reynders and Co., of New York.

GOELET'S SELF-RETAINING SIMS' SPECULUM.

The present modification consists of a movable attachment of a depressor to an ordinary Sims' Speculum. The attachment consists of a small arm, only large enough to hold a screw, riveted to the Sims' Speculum at A', where the depressor is attached by means of a lock like that of a Hodge



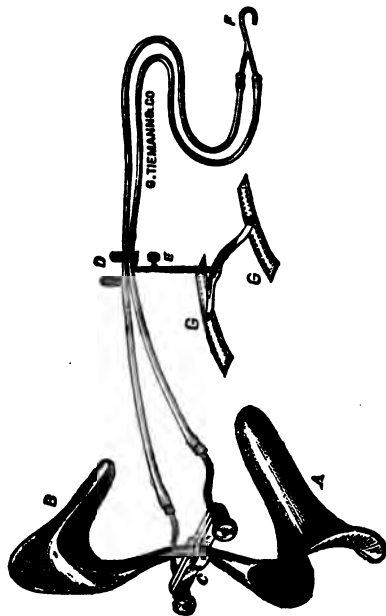
obstetric forceps. At B a standard, upon which the thumb-screw, G, works, is made to screw in, and may be removed or screwed in at C, when it is desired to use the smaller blade. At A' is the arm for the attachment of the depressor to the smaller blade. The depressor is a light steel rod, R R, which terminates in an oval ring, D, and slides up and down through the upper end of the lever at E. The lower

end of the lever, F, slides up and down on the standard, B, and may be fixed at any point by means of the thumb-screw, G.

The instrument may be introduced in two ways, viz.:—First, with the depressor attached but drawn back to its limit, when it will not interfere with introduction; or second, the lever and depressor are first detached, leaving only the small arm, A, and its screw and the standard, B, attached to the Sims' Speculum. The blade is then introduced in the usual manner and carried well behind the cervix. Being steadied in that position by the left hand, the lever, with the depressor well drawn back, is attached at A with the right and, by means of the screw, locked. The depressor is then slid along in the groove of the Sims' blade until it comes to its extremity, when it is separated from it $\frac{3}{4}$ of an inch. Then by placing the thumb of the left hand on the lower part of the lever at F, the cervix may be lifted into any position desired, and held there by means of the thumb-screw, G.

FRYER'S ADDITION TO SIMS' SPECULUM TO MAKE IT SELF-RETAINING.

A and B are the blades of the instrument. At C, two parallel bars, running at right angles to the shaft of the speculum, are clamped by circular milled nuts, which turn upon two cylindrical bars, which latter, at their further extremity, are slightly curved. Upon each of the ends of the curved bars is fastened a piece of India-rubber tubing, which is united in a metal hook at F, G, and D; the tubes pass over what we call the "bridge", which has a base at G. The vertical portion of the bridge allows of being raised or lowered, and of retention at a desired height by a screw at E.



The flange of the blades, or speculum portion of the instrument, is modelled after that of Emmet, and these blades are so bent as to make, with the handle or shaft, an angle less than that in the Sims' instrument, as usually made; this lessened angle, as

is now generally known, having been found a more convenient one. The mode of using the instrument is quite simple: the cross-bars being loosened by turning the milled nuts, are slid up the handle out of the way, the blade to be used is introduced (the patient being, of course, in the Sims' position), the cross-bars are brought down again, as shown in the woodcut, and fastened; the bridge is placed on the patient's sacrum, over the clothes, and the rubber-tube carried over the patient's right shoulder. The operator now draws upon the speculum, as is done in the Sims's instrument, until sufficient perineal retraction is had, when the tubes, which have been carried over the patient's right shoulder, are drawn upon by the patient (or assistant), and either held in her right hand or are fastened by the hook to a staple in the table on which she is lying. It will be found that a very slight strain by the patient will retain the instrument, for the tubes bind, as it were, upon the shoulder, and allow of the retention of the instrument by a but comparatively slight muscular effort; and even if this effort is impossible, as it would be, of course, in a prolonged operation, and in any case under anaesthesia, the hook could be easily fastened so as to hold the instrument firmly. The elasticity of the rubber-tubes, it will be found, equalise the tension admirably. Made by Tiemann and Co., 67, Chatham Street, New York.

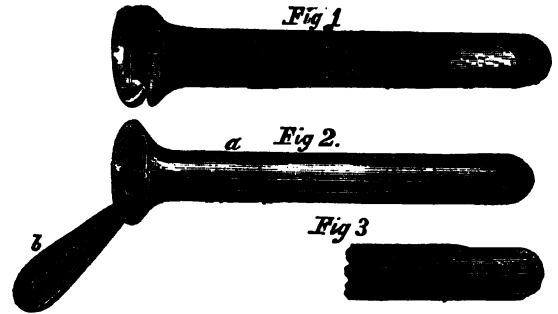
PAINE'S NASAL FEEDING TUBE.

This instrument is made 18 inches in length, with thicker walls than a common catheter and of a proper stiffness, so that it cannot be coughed up or held between the back teeth by tricky patients. Its advantages are, that the introduction causes no pain; there is no struggling to weary the patient; all the food enters the stomach, and none is thrown about the room; respiration proceeds regularly, and even conversation may continue without hindrance. The objections to it are those against the much used stomach-tube; while, over that instrument, from the non-necessity of forcing open tightly clenched jaws, and because of the inability of the patient to prevent its passage, it holds a true and deserved supremacy. Its adaptability is not confined to these cases of melancholia. It may be used in choking paresis or in paralysis of the throat from any cause; it might be used in fractures of the jaw, when teeth would otherwise be sacrificed; and in cancer of the mouth, or where food cannot be taken readily and naturally. Made by Tiemann and Co., 67, Chatham Street, New York.

SKENE'S ENDOSCOPE FOR EXAMINATION OF THE URETHRA, BLADDER, RECTUM, ETC.

This instrument is composed of three parts, viz.:—a glass tube, shaped exactly like the chemist's test-tube, except that the mouth is a little more flaring (fig. 2a); a mirror, with handle attached (fig. 2b); and a hard-rubber tube (fig. 1), similar to the glass one in shape, and fitting over it, having near the closed extremity a fenestra, through which appli-

cations can be made to diseased points. As the extent of surface to be treated is sometimes too great to be reached through this fenestra, Mr. Skene has had made a second rubber tube, open at both ends, the inner end being cut off at an oblique angle to the axis of the tube (fig. 3). The handle of the mirror



is made of a very thin piece of metal, concentric with the glass tube, and covering about one-third of its circumference when in position, and is a perfectly dead black, to prevent any reflection of light from its surface. The mirror, which is of a high reflecting power, is attached at an angle, and the other extremity of the handle is bent in the opposite direction to the mirror, giving a surface by which to hold the instrument while in use. It will be seen that the mirror can be moved forward or backward, or turned in any direction; so that, when the tube is introduced into the urethra, rectum, or any other canal, all of the exposed surface can be brought into view, while the tube itself remains stationary.

The method of using this instrument is as follows: the tube, with the mirror in position, is introduced into the canal to be explored. Light is then thrown into the tube by the aid of a concave mirror; this shows the portion of mucous membrane opposite the small mirror, by changing the position of which, all parts are successively brought into view. Sunlight answers very well, when all conditions are favourable for its use; but on dark or cloudy days, or when the position of the office-window makes it impossible, Mr. Skene prefers gas-light and uses a bracket movable in every direction, fitted with an Argand burner and the ordinary condensing attachment. This gives a very strong yet soft and steady light. The colour of the mucous membrane lining these canals has already been described, but the introduction of the endoscope modifies this colour to some extent. This is especially true of the urethra, where, if a large-sized tube is used, the parts are put upon the stretch, and the pressure of the glass upon the membrane, interrupting the capillary circulation to a slight degree, renders the colour, as seen upon the mirror, a pale pinkish-white. This does not interfere with the examination, however, as it makes a contrast between the diseased and healthy portions, and brings the former into more marked prominence.

The use of the rubber tube suggests itself. Having, by means of the endoscope, determined the extent and position of the surfaces to be reached, it is withdrawn, and one or other of the rubber tubes is introduced, into which the endoscope and mirror are inserted, and the fenestra, or open end of the tube, is brought directly opposite the diseased point. Withdrawing the glass tube, being careful not to disturb the rubber one, the desired application can easily be made. Slight modifications in the shape

and size of these tubes render them applicable to any of the mucous cavities. Made by Tiemann, 67, Chatham Street, New York.

SCHWEIG'S NEW DILATOR IN URETHRAL STRICTURE.

The accompanying woodcut shows in fig. 1 the dilator closed; in fig. 2 the dilator open. A (fig. 1) shows the shaft of the instrument. As this is not intended to enter the bladder, it has not the curve of the ordinary sound. To facilitate introduction, however, its (conical) point has a modification of Mercier's curve. The length of the entire shaft is about twenty centimètres, but can be made any desired length. It is graduated in half inches, the measurement beginning at the centre of the dilating wedge (B). It is hollow, and contains the rod and levers that force out the dilating wedge.

This last (B) is three and a half to four centimètres in length, and of a width equal to the diameter of the shaft, thus offering a broad dilating surface. It is enclosed on all sides except the one facing the interior of the shaft, or, in other words, on every side that protrudes into the urethra when the instrument is being used. It thus presents a smooth, solid, continuous surface to the urethra when protruded, leaving nowhere a crevice or opening for the engagement of any mucous membrane. When the instrument is closed, the wedge does not project, but is level with the shaft. It is forced out by two levers attached to a rod, which runs the length of the shaft, and is in turn attached to the screw-wheel (D), by means of which the instrument is worked. It is better to have two levers made, one at each end of the wedge, rather than only one, thus

insuring steadiness and parallelism to the wedge. At C there is an index (French scale) that shows the degree of dilatation at every stage of the operation; C C are ring-handles to steady the instrument and keep it in place.

The *modus operandi* is very simple. Dr. Schweig describes it as follows:—"The exact location of the stricture having been determined, the dilator is introduced a distance to make the centre of the dilating wedge to correspond with the stricture. One hand then steadies the instrument by means of the ring-handles, while the other slowly turns the screw-wheel until the desired degree of dilatation is obtained. While the index gives at all times accurate information in this respect, and will serve to keep dilatation within safe limits, as defined by the calibre of individual urethræ, I usually stretch until the patient complains of pain. I then either desist, or, generally, wait a few minutes, when usually the pain

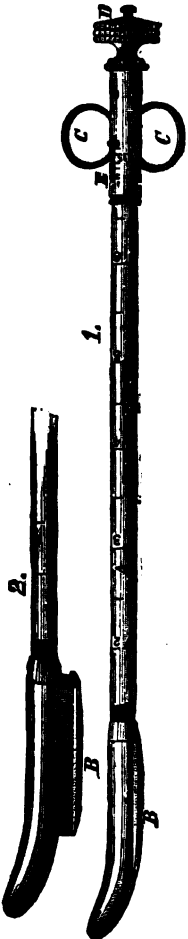
subsides, and I am able to advance one or two more numbers. In this way I have frequently been able to dilate four or five numbers at a single sitting. After the operation, a memorandum should be made of the highest number that has been reached. In a few days the operation is repeated, a higher number attained, and so on, until the bulb-sound determines a satisfactory result. Where resiliency is so prominent a feature in a case that slow and gradual dilatation proves unavailing, the instrument will be found a perfect divulsor by simply turning the screw-wheel rapidly, instead of slowly, up to a point previously determined, after measurement of the urethra and general considerations in individual cases, without regard, of course, to the patient's sensations. I have used it a number of times in this way, and was surprised to find with how little reaction, owing probably to the broad surface of the dilating wedge. Before withdrawing the instrument, the screw must, of course, be turned all the way back to allow the wedge to sink back within the shaft."

The instrument is so constructed that, after use, the wedge can be removed entirely, and both it and the shaft thoroughly cleaned. The chief characteristics of this contrivance are:—1. Simplicity of construction and mechanism. 2. The screw and lever plan, insuring irresistible strength and uniformity of pressure. 3. Dilatation parallel and at right angles. 4. A broad dilating surface. 5. Ease of introduction and extraction. 6. Facility of cleaning. 7. Reliability as to dilating at the proper place. 8. Restricting dilatation to the strictured portion and its immediate neighbourhood. 9. Positive and absolute immunity of the mucous membrane. Made by Tiemann and Co., 67, Chatham Street, New York.

DR. ELY'S IMPROVED METHOD OF DRAINAGE IN EMPYEMA.

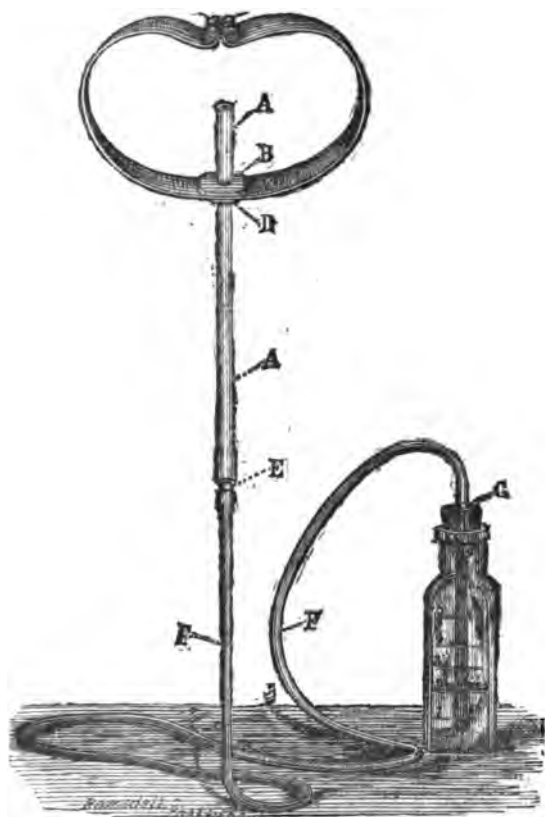
This contrivance consists of a soft rubber tube, held permanently in the cavity, and connected six or eight inches from the chest to four feet of smaller rubber tubing, which conducts the pus to a bottle, and discharges it under the surface of a carbolic acid solution. Three ideas are embodied in this apparatus:—1. A method of easy and permanent attachment of the drainage-tube to the depth in the chest desired. 2. The practical exclusion of air and the reception of all the pus discharged in a bottle, maintained at a position below the cavity to favour a syphon action. 3. An absence of all valves, and an easy separation for daily washing and cleansing, under an antiseptic spray.

First. The attachment of the drainage-tube. This is made by passing the rubber-tube, A, of the size selected, through a hole in a plate of sheet rubber, B, one and a half inches square, and one-eighth of an inch thick. The hole should be from two-thirds to three-fourths the size of the tubing. The elasticity of this rubber plate will hold the tube at any point desired. Over this is placed a piece of ordinary thin rubber bandage, C, one and a half to two inches wide, perforated for the passage of the drainage-tube. This serves as the band encircling the body. A smaller plate of the sheet rubber, D, one-half or three-fourths of an inch square, perforated as before, acts as a cap to keep the band in place. The ends of the band should meet tightly on the opposite side of the body. To fasten them, roll the ends over pieces of wire, tie them, and connect the



rolls with a tape passing through central holes in the band.

Second. The practical exclusion of air, and the reception of the discharge in a bottle. if the



drainage-tube fills the opening in the chest, and the band is firmly applied, little if any air will enter the chest about the tube. Four feet of one-quarter inch black rubber tubing, F, connect the drainage-tube with the bottle. At both extremities of this connecting tube, E and G, the joint is made by one and a half inches of strong glass tubing, which, at G, passes through the cork and projects below, to allow of a short piece of tubing being slipped on, to reach nearly to the bottom of the bottle. The cork is notched on the side for the egress of air as the bottle fills. Two ounces of a twenty per cent. solution of carbolic acid are put into the bottle to disinfect the pus as it discharges, and prevent the ingress of air to the chest.

Third. An easy separation for daily washing and cleansing. This separation is made under the antiseptic spray, by slipping off the drainage-tube from the connecting tube at E. The cavity is then washed out through the drainage-tube with a fountain syringe, and the attachment is again made to a fresh tube and bottle. Two connecting tubes and bottles are thus necessary, that one may be thoroughly cleansed and disinfected while the other is in use. The antiseptic spray is maintained continuously during the change. Dr. Ely says, with regard to this instrument, "I have used the above apparatus for six months in a case of empyema, with great comfort to the patient. During the day he walks about with the bottle in his pocket. The connecting tube is brought down under his clothes,

with as many turns as may be convenient. At night the bottle is maintained upright on the floor. The drainage-tube has not so enlarged the opening in the chest as to render a change necessary. A little pus may leak out of the chest, but it is exceptional, and is at once taken up by the absorbent cotton which surrounds the tube at its entrance, to prevent its being bent and obstructed. In my case, the syphoning action is a noticeable feature of this treatment. The pus is found each morning in the bottle, and measured by the scale on its side. Seldom more than a few drops escape in the washing process."

CURRIE'S DOUBLE CANNULATED NEEDLE.

This is a new instrument. It is of very simple construction, consisting of two hollow, curved needles, with bevelled points, and handles attached, as may be seen by fig. 1, in the accompanying woodcut, which shows the instrument closed. Fig. 2

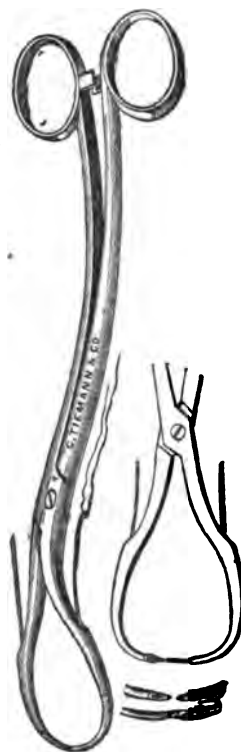


Fig. 1.

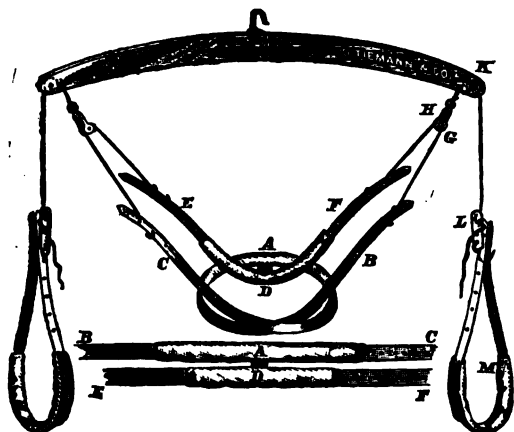
Fig. 2.

shows it open, with the suture passed through the needles. The intention was to use wire sutures only, but reference to fig. 1 shows a thread (so to speak) about to be drawn through by means of a fine flexible hook, thereby making the introduction of silk sutures perfectly easy. The general *modus operandi* of this instrument will immediately suggest itself to the gynecologist and surgeon, without our entering more fully into detail. It is so perfectly adaptable in general shape, size, etc., as to be used within very small compass. It also twists the suture when wire is used. The only parts of the operation that the skilful manipulator cannot do with it, is to cut the wire or to pare the edges of the

fistula. In twisting the suture, unnecessary strain upon the tissues should be prevented by means of a tenaculum, held so as to protect them. Made by Tiemann and Co., 67, Chatham Street, New York.

GLAZIER'S IMPROVED SUSPENSION APPARATUS.

It consists, like Dr. Sayre's apparatus, of a cross-bar, a head-piece, a sling for each arm. The latter,



attached by a buckle, L, are connected with the head-piece by a cord which passes over a pulley, K, in each end of the cross-bar, so that the weight is equalised. One end of this cord is attached to a pulley, H, through which passes a second cord, G, that is attached by hooks to the head-piece, so as to allow a backward and forward motion of the head, thus equalising the pressure between the chin and occiput, or enabling the patient to rest the whole weight coming on the head-piece on the chin or the occiput, at pleasure.

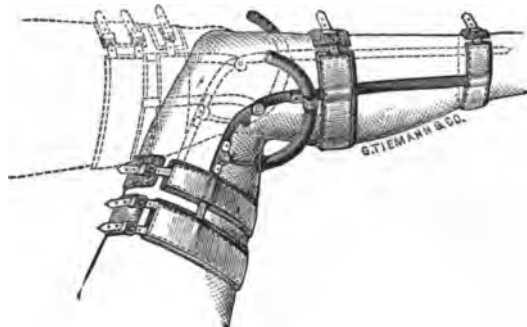
The head-piece consists of two padded straps, A B C, D E F, lower figure, of unequal length, fastened together at A D by a thin piece of metal bent at right angles, very like the ordinary four-tailed bandage used in fracture of the lower jaw. It is applied in a like manner, with the exception that the ends, instead of being tied, are attached to the hooks on the cord, G, which passes through the pulley, H, the longer one crossing behind the occiput, after passing outside of the shorter one, over the angle of the jaw and mastoid process. The suspension apparatus is applied in the following manner:—Holding the apparatus before you, attach the short strap, E D F, of the head-piece to the hooks on the end of the short cord farthest from you. Stand behind the patient, slip the arms into the arm-slings, M M, and attach the cross-bar to the elevating apparatus by the hook; pass the head-piece in front of the patient's face, resting his chin on the short strap at D. The middle of the long strap, A, is now in front of the chin, the two ends of which, C B, are brought behind the occiput, crossed, and attached to the hooks at the other end of the short cord.

Small patients, in struggling from fright, are very apt to allow the arm-slings to slip to the bend of the elbow. This does no harm, as they invariably flex the forearm, thus holding on in spite of themselves. It is possible that this may be the best position for the arm-slings, as the pressure in the axillæ is often very disagreeable. The cross-bar of this apparatus

is 0.50 m. between the bearings of the pulleys, and is the right length for a child; for an adult it should be from 0.75 m. to 0.80 m. in length. The advantage of length is that the strap, E D F, thus becomes more nearly horizontal, thus preventing pressure on the sides of the face, by holding away the strap, B A C, which would otherwise press too heavily on the jaw. Made by Tiemann, 67, Chatham Street, New York.

HOOVER'S APPARATUS FOR TREATING DISEASES OF THE HIP AND KNEE-JOINTS.

The great difficulty met with heretofore in treating diseases of the knee-joint by the extension method, has been the loss of extension during flexion. This is completely overcome by placing a helix spring in curved tubes fastened on each side of the instrument



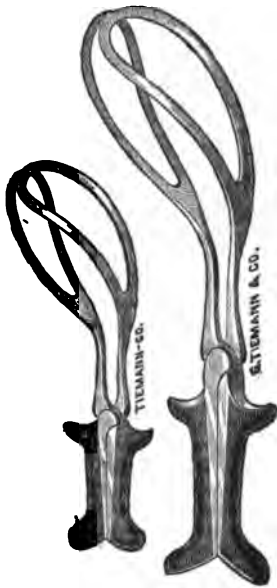
now offered, three inches below the joint. At the same distance above the joint are fixed rods, curved to the same arc as the tubes. The free ends of the rods fit into the tubes and rest upon the upper end of the springs. By this simple arrangement, extension is increased by flexion, instead of being lost, as in other appliances; and, in reality, extension is greater during flexion than when the limb is straight. The play of the joint allows the limb to be flexed at right angles, which is sufficient for all practical purposes. The action of the spring ceases when the limb is extended to its utmost, thereby preventing any undue pressure upon the joint in a direction contrary to the one in which it should be applied. Instead of the padded strap used for counter-extension in the hip-joint apparatus of Prof. Sayre is employed a piece of sheet metal shaped to fit the inner surface of the thigh, the upper edge being curved to correspond to the buttocks, the perineum, and the groin. It is also flanged about three-quarters of an inch, and well padded, so that great force may be used during extension without injury to the soft parts. This is attached to the inner side bar of the splint by means of a ball and socket-joint, which allows every motion of which the hip-joint itself is capable.

To apply the instrument, first remove the hair from the limb; then sponge it well with soap and water, to prevent the itching caused by the application of the adhesive plaster; now cut eight or ten strips of the best English mole-skin adhesive plaster (no other will answer the purpose) an inch wide, and long enough to extend from a point two inches above the knee to three inches lower than the point where the end of the instrument will rest. Be careful in their application, allowing no creases or wrinkle to

form, else they will have to be removed on account of the pain they produce. Secure them firmly by means of a bandage, commencing its application three inches above the lower end of the strips, and ending five inches above the knee; now adjust the splint, letting the hinged band at the end fit as near the surface of the skin as possible without touching. Turn the free ends of the adhesive strips upward and over the band, securing them likewise with a bandage, extending to a point just below the knee. Twelve hours should elapse before extension is applied, for fear the adhesive strips might slip from their position. The extension should be increased gradually, from day to day, by means of the rack and pinion on the inside bar. If full extension is used in the beginning of the treatment, the crutch will be apt to chafe the groin, especially in warm weather. Made by Tiemann, 67, Chatham Street, New York.

JENKS'S NEW OBSTETRIC FORCEPS.

The long forceps weigh 20 ounces, the entire length is 16 inches, the handles, including the lock, being 16½ inches long, the blades in their widest



place are 1¾ inches. The blades are longer than in most forceps, in which entire length is about the same. The distance from the lock to the end of the blade is such that the instrument can readily be locked outside the vagina, even when the head rests at the brim of the pelvis. The short forceps are similar in shape. The weight of the short forceps is 10 ounces, the entire length a little less than 11 inches. It is a very convenient and serviceable instrument in a class of cases where the short forceps can be used, but where one does not wish to use the long ones. The forceps are nickel-plated, with hard rubber handles. Made by Tiemann, 67, Chatham Street, New York.

CLEBORNE'S DOUBLE FORCEPS.

The little instrument figured in the accompanying illustration combines in a compact form an artery, bulldog and tissue forceps, and two needle-holders.



Like other forceps, they are designed to take the place of the fingers where objects are too small to be grasped by them, or when they cannot be used to advantage. The fenestrated jaws, which are called "tissue forceps", will be found useful for holding the skin for the passage of needles in making sutures in hare-lip or other operations. It will save pricking the fingers, will hold the tissues firmly, and may be used for temporarily arresting hæmorrhage. Both ends of the instrument are deeply grooved to hold needles or pins at any angle, while the inner borders of the points are cut transversely, and are double-toothed, to retain securely an artery or other small object. The blades are held together by the Liston spring, and their middle sections and sides are file-cut, so as to prevent the fingers slipping. It is manufactured by Messrs. Tiemann, 67, Chatham Street, New York.

MISCELLANY.

THE ACTION OF TOAD POISON ON THE HUMAN BODY.—A child of six years old followed a large toad on a hot summer's day, throwing stones at it. Suddenly he felt that the animal had spurted some moisture into his eye. There then set in a slight pain and spasmodic twitching of the slightly injected eye, and two hours after coma, wavering sight, desire to bite, a dread of food and drink, constipation, abundant urine, great agitation, manifested themselves, followed on the sixth day by sickness, apathy, and a kind of stupor, but with a regular pulse. Some days later, having become comparatively quiet, the boy left his bed; his eyes injected, the skin dry, the pulse free from fever. He howled and behaved himself like a madman, sank into imbecility and speechlessness, from which condition he never rallied.

THE METRIC SYSTEM.—At the last meeting of the American Medical Association, Dr. Seguin's report on the Metric System was considered. The doctor made a few remarks in support of his conclusions.—That the American Medical Association adopts the International Metric System, and will use it in its transactions. Requests that those who present papers at its future meetings employ this system in its communications or reprints thereof. Requests the medical boards of the hospitals and dispensaries to adopt the metric system in prescribing and recording cases; and that the faculties of the medical and pharmaceutical schools adopt it in their didactic, clinical, or dispensing departments. Requests the physicians familiar with the metric system to help their confrères and the druggists in its application; and the delegates present at this session to work up the acceptance of the metric system by their respective county and state societies. And requests the president to name a Metric Executive Committee, of which he shall be the ex-officio chairman, and whose task will be to give unity and rapidity to this metric movement. These conclusions were adopted by the meeting.

THE CRANIA OF EMINENT MEN.—It has been commonly accepted as a fact in anthropological science that

the cranium of Descartes was small, and this has often been referred to as against the assertion that a large cranium is necessary for high intellect. No exact measurement, however, of the skull of the great philosopher seems to have been published in proof of what was stated. Lately Dr. Le Bon has examined it along with others in Gall's collection, and he finds that this supposed small cranium has a capacity of 1,700 cubic centimetres, which is 150 cubic centimetres above the average of Parisian crania at the present time—viz., 1,550 cubic centimetres. Of the 25 crania of distinguished men in the collection there is only one which is very considerably under the average. It is that of Roquelaure de Besuejous, 1,365 cubic centimetres. He was Bishop of Senlis, Chief Aumonier to Louis XV, and a member of the French Academy; a man of very mediocre talent. After him, with increasing capacity of skull, come Alxinger, a now forgotten poet, 1,505 cubic centimetres; Wurmser, an Austrian General, always defeated, 1,510 cubic centimetres; Juvenal de Ursins, Chancellor under Charles V, 1,525 cubic centimetres. The others are above the average and we merely note the following among them:—Boileau, 1,690 cubic centimetres; Gall, 1,692 cubic centimetres; Descartes, 1,700 cubic centimetres; Chenevin (eminent chemist), 1,700 cubic centimetres; De Zach (astronomer and mathematician), 1,715 cubic centimetres; Marshal Jourdan, 1,725 cubic centimetres; David (able mathematician), 1,725; Cassaigne (distinguished lawyer), 1,755 cubic centimetres; Abbe Gautier (author of well-known educational works), 1,770 cubic centimetres; Volta, 1,850 cubic centimetres; Spurzheim, 1,950 cubic centimetres; and La Fontaine (who carries the palm), 1,950 cubic centimetres. If it hold generally good that high intellect requires a large cranium, it is by no means necessarily the case that a large cranium implies high intellect. We learn from *La Nature* (which furnishes the above data) that Dr. Bordier has recently measured 36 crania of guillotined murderers in the museum of Caens. Their average was very respectable—viz., 1,547.91 cubic centimetres. The most capacious, 2,076 cubic centimetres, was evidently pathological. None of them fell below 1,300 cubic centimetres. The French crania at the last anthropological exhibition, and which were those of criminals who had died in prison, had mostly capacities much above the average. Several of them, 12 out of 39, had a capacity superior to 1,600 cubic centimetres, and one was as high as 1,950 cubic centimetres. It is evident that the relations between capacity of the cranium and intelligence are somewhat complicated. In different species, too, the relations of the function to the organ are different.

THE CAMERON PRIZE.—This prize, recently founded in Edinburgh University by the late Dr. A. R. Cameron, of New South Wales, "for the most important addition to Practical Therapeutics in the past year", has been awarded to Dr. Paul Bert, Professor in the Faculty of Sciences, Paris, for his researches extending over a series of years and summarised in his work entitled "*La Pression Barométrique; Recherches de Physiologie Expérimentale*" (Paris, 1878).

THE PROPOSED CRIMINAL CODE.—A letter from the Lord Chief Justice of England, dated June 12, 1879, containing comments and suggestions in relation to the Criminal Code (Indictable Offences) Bill, contains the following comments on the important subject of insanity. "The first observation to be made is that imbecility is included under insanity; yet the two things are essentially different, the one being the imperfect condition of mental power from congenital defect or natural decay; the other the diseased condition of the mind in some or all of its functions. Passing this by, we have here, as it has been often done before, the law stated, in the terms in which it was expounded by the judges in the House of Lords, with reference to the M'Naghten case, but without the important addition, namely, that to disentitle a man, though labouring under delusions, to be acquitted on the ground of insanity, his state of mind must have been such that he 'knew that he was acting contrary to law'. It is true

that the judges also stated 'that the question to be put to the jury in such cases is, whether the party accused was labouring under such a defect of reason from disease of the mind as not to know the nature and quality of the act he was doing, or, if he did know it, did not know he was doing what was wrong', being in the latter part the same loose and uncertain language as occurs in the present Bill—language not the less loose and unsatisfactory because used by learned judges, but which, taken with the earlier part of the answer, must, I think, be understood to mean legally wrong. But here an important question presents itself, and which is not covered by the statement of the judges. Among the functions of the human mind liable to be perverted by disease is, as all scientific writers on insanity are agreed, the human will, which sometimes becomes the slave of maniacal impulses which it is unable to resist. Among the different forms of madness by which the will is liable to be thus affected is that which is known by the term homicidal mania, or, when it impels a person to self-destruction, suicidal mania. That the will is liable to be thus maniacally affected, and so to be swayed by impulses which it is unable to resist, is a point on which writers on mental pathology are agreed. Instances have been known in which lunatic patients have been periodically thus affected, and, conscious of the approach of the maniacal condition, have requested to be placed under restraint. Murders for which no motive could be suggested, sometimes of children by their own mother; self-murder, equally without adequate motive, by men of religious character, can often only be thus accounted for. Ought persons who thus afflicted commit crimes to be punished as though they were of sound mind and capable of the self-restraint which the sense of moral right and wrong, or the fear of the law, imposes upon others more happily constituted? The point cannot as yet be said to have been authoritatively determined. The language of the judges in the House of Lords has no doubt been repeated as of general application, but erroneously. Their answers had reference to the specific question put to them by the House, language of which was in these terms: 'What is the law respecting alleged crimes committed by persons afflicted with insane delusions in respect of one or more particular subjects or persons?' The answer is restricted to the specific question so put. 'Assuming', it begins, 'that your inquiries are confined to those persons who labour under such partial delusion only, and are not in other respects insane, etc. The answer thus excluding any other form of insanity save that of partial delusion, and, consequently, not touching the case of mania to which I am at present directing attention. Further questions are put as to the questions to be put to the jury when a person having insane delusions is charged with a crime, and insanity is set up as a defence, and the answers, as before, have reference only to the question put; that is to say, to the effect of insane delusion as a defence. . . . The question whether under the influence of mental disease the human will may become subject to impulses which it is unable to resist, and upon which even the fear of death will not operate as a restraint, is not one for lawyers to dispose of dogmatically, as they too often do, but one which, as a question of pathological science, it is for men conversant with that science to decide. If the fact is established, as I believe it to be, it is for the enlightened and philosophic lawgiver, in the interests of justice and humanity on the one hand, and of society on the other, to determine whether an act done in such a condition of the mind shall subject a man to punishment."

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A REVIEW OF THE

*Progress of the Medical Sciences and of
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[Educational Number]

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THE LONDON MEDICAL RECORD.

SEPTEMBER 15, 1879.

EDUCATIONAL NUMBER.

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MEDICAL QUALIFICATIONS IN GREAT BRITAIN AND IRELAND.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen; and the registrable qualifications obtainable from them amount to fifty-five. They are as follows.

1. *Royal College of Physicians of London*: Diplomas of Licentiate, Member, and Fellow.
 2. *Royal College of Surgeons of England*: Diplomas of Member, Fellow, and Licentiate in Midwifery.
 3. *Apothecaries' Society of London*: Licence.
 4. *University of Oxford*: Degrees of Bachelor and Doctor of Medicine.
 5. *University of Cambridge*: Degrees of Bachelor and Doctor of Medicine, and Master in Surgery.
 6. *University of London*: Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
 7. *University of Durham*: Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
 8. *Royal College of Physicians of Edinburgh*: Diplomas of Licentiate, Member, and Fellow.
 9. *Royal College of Surgeons of Edinburgh*: Diplomas of Licentiate and Fellow.
 10. *Faculty of Physicians and Surgeons of Glasgow*: Diplomas of Licentiate and Fellow.
 11. *University of Aberdeen*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 12. *University of Edinburgh*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 13. *University of Glasgow*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 14. *University of St. Andrews*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 15. *King and Queen's College of Physicians in Ireland*: Diplomas of Licentiate, Fellow, and Licentiate in Midwifery.
 16. *Royal College of Surgeons of Ireland*: Diplomas of Licentiate and Fellow.
 17. *Apothecaries' Hall of Ireland*: Licence.
 18. *University of Dublin*: Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor in Surgery, Master in Surgery.
 19. *Queen's University in Ireland*: Degrees of Doctor of Medicine and Master in Surgery; and Licence in Surgery.
- In addition, the Royal College of Surgeons of England grants a licence in Dental Surgery. Certificates and diplomas in State Medicine and

Public Health (which at present are not registrable) are conferred after examination by the Universities of Cambridge, London, Durham, Edinburgh, Glasgow, and Dublin; and by the Royal College of Physicians in Edinburgh.

The following is a general summary of the conditions required on the part of candidates for examination; but, for further details, our readers must consult the regulations issued yearly in the Students' numbers of our contemporaries; or apply to the officers of the respective Universities, Colleges, and Halls.

The regulations of the Examining Bodies are, with very few exceptions, framed in accordance with the Resolutions and Recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council; prior to which he must have passed an examination in subjects of general education. As evidence of this are recognised:—1. The possession of a degree in Arts of an University of the United Kingdom or of the Colonies, or of some University recognised by the Medical Council; 2. A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the "Recommendations of the General Medical Council". The Medical Council recommends that no such certificate should be accepted by any of the licensing boards, unless it testify that the candidate has been examined in the following subjects: 1. The English language, including Grammar and Composition; 2. Arithmetic, including Vulgar and Decimal Fractions, and Algebra, including Simple Equations; 3. Geometry—the first two books of Euclid, or the substance thereof; 4. Latin, including Translation and Grammar; 5. One of the following subjects at the option of the candidate: Greek; French; German; Elementary Mechanics of Solids and Fluids, meaning thereby Mechanics, Hydrostatics, Pneumatics, and Hydraulics. The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognised as dating fifteen days earlier than the date of registration. Forms for such registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the Licensing body with which he intends to become connected): 1. By attendance for one year on the practice of a provincial hospital or other public institution recognised for this purpose; 2. As the pupil, for one year, of a legally qualified surgeon, holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities; 3. By entering at once at a recognised medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half must be passed at a recognised medical school. For the degrees of the Universities (except that of London) the candidate is required to spend a portion of the time of medical study at the University which grants the degree, or at a College in connection therewith.

To obtain a degree, diploma, or licence, two examinations at least in professional subjects must be

passed. The first examination may be completed at or before the close of the second year of professional study, and embraces the following subjects: 1. Chemistry and Chemical Physics; 2. Anatomy; 3. Physiology; 4. *Materia Medica* and Pharmacy. The second final examination, which must not be passed until or the completion of the fourth year of study, comprises:—1. Pathology (including Morbid Anatomy); 2. Medicine (including Medical Anatomy, Clinical Medicine, and Therapeutics); 3. Surgery (including Surgical Anatomy and Clinical Surgery); 4. Midwifery; 5. Forensic Medicine. This arrangement is of course subject to some variation; but the general principle of examining first in the elementary and afterwards in the practical subjects is invariably followed. Some of the examining bodies—such as the Universities in Scotland—divide the examinations into three or four parts.

COURSE OF STUDY.—With regard to the course of study, the prospectus of Guy's Hospital contains some excellent advice.

"During his first winter session, the student is advised to devote his chief attention to Anatomy. Immediately he has entered he should put down his name for 'a part'; and while unemployed in actual dissection, should spend as much time as possible in the dissecting-room, attend demonstrations, and become thoroughly familiar with the bones. Physiology and Chemistry should also be studied at this period. Opportunities should occasionally be taken for visiting the out-patient departments, and acquiring some familiarity with the more common diseases and injuries, and the application of anatomy and physiology in their recognition.

"In his first summer session the student will be chiefly occupied with Practical Chemistry, *Materia Medica*, Botany, and Comparative Anatomy.

"The second winter session should be devoted to gaining a thorough knowledge of Anatomy, Physiology, and Histology, in preparation for the primary examination of the College of Surgeons; and, in the following summer, *Materia Medica*, Pharmacy, and Chemistry, may be further studied.

"Though always keeping in view the necessity of passing the primary examination at the first opportunity, it will be possible for most students to take during the first year or early in the second winter session, the appointment of assistant-surgeon's clerk, or one or more of the junior appointments.

"As soon as the primary examinations are passed, the duties of surgical clinical clerk should be undertaken, if not previously performed; and the wards, *post mortem* room, and out-patients' rooms, constantly attended.

"The student will be then qualified for the medical and surgical appointments, which he is required by the examining bodies to have fulfilled before presenting himself for their diplomas. It is not of great importance which is taken first, nor could any one arrangement be adhered to by all students, but the following order appears preferable: dresser in the surgery, assistant surgeon's dresser, medical clinical clerk. In the first-named appointment, the student should practise the manipulations of minor surgery, while in the second he should include the observation of surgical diseases, and their treatment by operation or otherwise. In the appointment of medical clinical clerk the elements of physical diagnosis should be learnt, every effort being made to train the eye, the hand, and the ear, as well as to learn how to use the various instruments of investigation.

The knowledge before acquired of microscopical and of chemical application will now be fully applied; and the subject of Morbid Anatomy should be studied as each case arises.

"The appointment of clerk in the out-patients' room—assistant-physician's clerk, obstetric out-patient clerk—should follow, and those of *post mortem* clerk, dental surgeon's dresser, etc., may also be held advantageously during the third year. Cases of midwifery should not be attended until after a course of lectures on that subject, when the student should make it convenient to devote a month to the appointment of extern.

"Every student who desires to obtain the greatest advantage from his position, should seek to hold at least one, and, if possible, each in succession, of the higher students' appointments, viz., those of clinical assistant, full dresser, and resident obstetric assistant.

"Students who intend to take a degree in the University of London must somewhat deviate from the above course. They should defer entering the hospital until they have matriculated, and may with advantage pass the preliminary scientific examination before commencing the usual courses of Anatomy and Physiology. If, however, they have only matriculated, then the first year should be devoted to learning the rudiments of Human Anatomy, and attending the courses of Chemistry, Physics, Botany, and Comparative Anatomy, in preparation for the preliminary scientific examination. Special classes in each of these subjects are held and examination papers given. After this examination has been passed, the second year should be devoted to Anatomy, Physiology, and the other subjects of the first M.B. examination, and until this is passed it is advisable not to undertake any higher appointments than those of assistant surgeon's clerk, surgical ward clerk, and perhaps dresser in the surgery."

The following is taken, with slight verbal alterations, from the prospectus of Owens College, Manchester.

"During the first winter session the student should give his chief attention to Descriptive Anatomy and Dissections, and to Physiology and Systematic Chemistry. Students are strongly recommended to consider all these subjects as equally deserving of study, as, besides their independent claims, a competent knowledge of each is insisted upon by some of the examining boards.

"His first summer session should chiefly be devoted to Physiology, Practical Histology, Practical Anatomy, the Laboratory Course of Chemistry, and to Botany. A certain portion of his time should also be given to the practice of the Hospital and Clinical Instruction.

"In his second winter session he should strive to obtain a more exact knowledge of Anatomy, Physiology, and Histology, with the view of preparing himself for the primary examination of the College of Surgeons. He should also attend lectures on Medicine and Surgery, and Hospital Medical and Surgical Practice.

"In his second summer session, *Materia Medica*, Medical Jurisprudence and Hygiene, and Practical Pharmacy should be taken, and as much time as possible should be devoted to study in the wards, the *post mortem* room, and the out-patients' rooms.

"His third winter session should be devoted to the study of Medicine, Surgery, and Pathology; and in the ensuing summer session he should attend Midwifery, along with other special courses,

such as those of Pathological Histology and Ophthalmology."

The Royal Colleges of Physicians and Surgeons of Edinburgh recommend the following order of study for students who spend four years at a medical school.

First Year.—Anatomy, Practical Anatomy, Chemistry, Practical or Analytical Chemistry, Hospital.

Second Year.—Anatomy, Practical Anatomy, Physiology, Surgery, Materia Medica (the last either in this or the third year), Hospital.

Third Year.—Practice of Medicine, Clinical Surgery, Practical Anatomy, Practical Pharmacy, Clinical Medicine, Pathological Anatomy, Hospital.

Fourth Year.—Surgery or Clinical Surgery, Midwifery and the Diseases of Women and Children, Practice of Medicine or Clinical Medicine, Medical Jurisprudence, Practical Midwifery, Hospital.

They also strongly recommend students to avail themselves of any opportunities which they may possess of attending, in addition to the courses of instruction which are absolutely required, lectures on Ophthalmic and Mental Diseases, also on Natural History and Comparative Anatomy, and of obtaining practical instruction in the use of the microscope.

If a portion of the four years be spent in pupilage with a practitioner or at a hospital or infirmary not possessing a medical school, some modification of the course of study laid down in the preceding plans may be required: but the general order will remain the same.

INSTRUCTION IN THE MEDICAL SCHOOLS.

The medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the London, St. Mary's, the Middlesex, St. Thomas's, and Westminster Hospitals; and the Medical Faculties of King's and University Colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England, there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; together with medical schools at Bristol, Leeds, Liverpool, and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education; in fact, there is no medical school at Oxford; but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given, are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow, the Extra-Academical School in Edinburgh, and the Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the Colleges at Belfast, Cork, and Galway, in connection with the Queen's University in Ireland. There are also several medical schools in Dublin: viz., the Carmichael College of Medicine and Surgery; the Catholic University; Dr. Steevens's Hospital and Medical College; and the Ledwich School of Anatomy, Medicine, and Surgery.

For information regarding these institutions reference must, as we have already said, be made to the published prospectuses. We shall, however, endeavour to classify a part of the information therein contained under certain heads, viz., Clinical instruction; Practical Surgery; Special Departments; Practical Physiology; Hospital Appointments; Tutorial Instruction; and Scholarships, Exhibitions, and Prizes.

CLINICAL INSTRUCTION.—At all the hospitals connected with medical schools the physicians and surgeons deliver, at stated intervals, lectures on the cases under their care, in addition to making comments during their visits to the wards or in the operating theatre. In some instances, special provision is made by the appointment of one or more of the hospital staff as clinical professors or lecturers; and in several of the hospitals a certain number of beds are specially devoted to the purpose of clinical instruction. At Guy's Hospital, forty patients are set aside in the medical wards, and are visited and their cases lectured on by the physicians in the winter, and by the assistant-physicians in the summer session: the surgeons also select cases for clinical instruction. A similar arrangement exists at the London Hospital, where two wards containing thirty beds are devoted to the express purpose of teaching clinical medicine; the cases being lectured on by the physicians in the winter, and by the physicians or assistant-physicians in the summer. Special clinical professorships, in medicine and surgery, in addition to the ordinary clinical lectures given by the physicians and surgeons, exist at the King's and University College Hospitals. In the former, the professor of clinical medicine is Dr. George Johnson, and the professors of clinical surgery are Mr. John Wood and Mr. Lister. In University College Hospital there are two special chairs, known as the "Holme Professorships" of Clinical Medicine and Surgery. The Holme professor of clinical medicine is Dr. Wilson Fox, who delivers clinical lectures on Tuesdays and Thursdays on the significance of the general signs of disease, and on the special modes of examination, diagnosis, and treatment of individual cases. There are also two assistant professors of clinical medicine, Dr. Gowers and Dr. Poore, who hold classes for instruction in physical examination, the investigation of diseases of the nervous system, the examination of the urine, the use of the laryngoscope, etc. The Holme professor of clinical surgery, Mr. Christopher Heath, gives a clinical lecture once a week, and also holds a weekly clinical examination on surgical cases in the operating theatre; these examinations, while open to the whole class, being specially intended for the instruction of the senior students. Mr. Marcus Beck and Mr. A. E. Barker are assistant-professors of clinical surgery. In Cambridge, clinical instruction in medicine and surgery is given at Addenbrooke's Hospital throughout the year. At Leeds, clinical classes meet at appointed hours to receive instruction in the wards from the physicians. In the Liverpool Royal Infirmary, Dr. Glynn, one of the physicians, gives, once a week during the winter, practical instruction in clinical medicine and the methods of physical diagnosis. In the Owens College, Manchester, there is a special professorship of clinical medicine, held by Dr. William Roberts. Medical and Surgical Clinical Classes are formed by the members of the hospital staff at each of the trimestral periods, commencing with October, January, and May. The instruction, which is conducted

in the Manchester Royal Infirmary, consists of clinical lectures on cases, and the methodical examination of patients. Each student in turn is required, under the direction of the teacher, to examine patients, to elicit the symptoms and physical signs of the disease, to indicate the diagnosis and prognosis, to lay down the plan of treatment, and to perform the necessary manipulations when practicable. In the Infirmarys of Aberdeen, Edinburgh, and Glasgow, clinical lectures on medicine, surgery, and midwifery are delivered by the medical staff of each institution. The Universities of Edinburgh and Glasgow have special professors of Clinical Medicine and Surgery. In the medical schools of Ireland, clinical courses are given through the session.

In connection with the subject of Clinical Instruction, reference must be made to means provided at several hospitals for the special purpose of training the students in the observation of cases. At the Charing Cross Hospital, practical instruction in auscultation, in health and in disease, is given once a week by Dr. Irvine; while Dr. Houghton instructs in case-taking. In Guy's Hospital, the ward clerks (of whom 150 or more are appointed during the year) are assisted in the examination of cases and the preparation of reports by the medical and surgical registrars, who also instruct them in physical diagnosis and in chemical and microscopical investigation. Similarly, at the London Hospital, the clinical clerks and dressers are assisted by the house-physicians and house-surgeons. At several of the medical schools there are medical tutors, who instruct the students in the physical examination and systematic description of cases. The provision made at University College Hospital has been referred to above. In connection with the Owens College, classes for medical demonstration are held in the Manchester Royal Infirmary twice weekly during the summer by two of the medical officers; in which classes instruction is given in anatomy as applied to medicine, in physical and chemical examination, etc. In the University of Edinburgh, a class for instruction in clinical medicine is held in the wards of the Royal Infirmary by the clinical tutor.

PRACTICAL SURGERY.—At most of the schools, special provision is made for instruction in this important branch of medical education. The courses embrace such subjects as—the application of anatomy to surgery on the living person or the dead body; the methods of proceeding, and the manipulations necessary, in order to detect the effects of diseases and accidents; the performance of operations on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated by preparations and recent specimens. The course of practical instruction is generally distinct from that of systematic surgery, and is in many instances given in the summer session. In the Westminster Hospital, however, besides a summer course of operative surgery, a winter course of practical surgery is given every second year, alternately with the systematic course. In the Liverpool School of Medicine, the lectures on Systematic Surgery are given thrice weekly, and there is a concurrent course of Practical Surgery twice weekly; besides which, a course of Operative Surgery is given in the summer.

SPECIAL DEPARTMENTS.—Due provision is made for instruction in *Midwifery*, so as to enable students

to meet the requirements of the examining bodies; but we do not call to mind any arrangement in any of the schools demanding special notice.

Ophthalmic Surgery is taught by lectures and observation of cases at all the London schools; each hospital receiving ophthalmic patients except the Charing Cross, the pupils of which are admitted to the practice of the Royal Westminster Ophthalmic Hospital. As far as can be gathered from the prospectuses, the material available for the practical teaching of this subject (as far as regards in-patients) is as follows: St. Bartholomew's Hospital, 26 beds; Charing Cross (Royal Westminster Ophthalmic Hospital), 50 beds; Guy's Hospital, 50 beds (also about 2,500 out-patients, and an average of more than 500 operations); London Hospital, 12 beds. The other hospitals have beds for ophthalmic cases, but the number is not stated. Among the provincial schools, those of the Universities and at Newcastle-on-Tyne are the only ones in which there is no special department for teaching ophthalmic surgery. In the Universities of Aberdeen and Glasgow instruction in ophthalmic surgery is given; and the students are admitted to see the practice of ophthalmic institutions in those cities. In the Extra-academical School of Edinburgh, and in Anderson's College and the Royal Infirmary School of Medicine in Glasgow, courses of lectures on the subject are given. In Ireland, provision is made for the teaching of ophthalmic surgery in most of the medical schools of Dublin.

Aural Surgery is taught as a special branch at all the London medical schools, and at the Leeds School of Medicine and the Manchester Royal Infirmary among the provincial schools; also in the Extra-academical School in Edinburgh, and in Glasgow Royal Infirmary School of Medicine.

Diseases of the Throat.—Special instruction in the diagnosis and treatment of diseases of the throat and larynx, and the use of the laryngoscope, is given at St. Bartholomew's Hospital by Dr. Lauder Brunton; at the Charing Cross Hospital by Dr. Irvine; at St. George's Hospital by Dr. Whipple; at King's College Hospital by Dr. Baxter; at the London Hospital by Dr. Morell Mackenzie, who delivers a course of lectures on the subject; at St. Mary's Hospital by Mr. Norton; at the Middlesex Hospital by Mr. Clark (with Diseases of the Ear); at St. Thomas's Hospital by Dr. Greenfield; at University College Hospital by Dr. Poore; at the Westminster Hospital by Dr. De Havilland Hall; at the Bristol Royal Infirmary by Mr. Harsant; at the Manchester Royal Infirmary by Dr. H. Simpson; and in the Glasgow Royal Infirmary by Dr. E. Watson.

Diseases of the Skin.—For the teaching of this important department of medicine, special provision is made in all the London Hospitals, and in the Manchester Royal Infirmary. Demonstrations of cases, and clinical lectures, are given at stated intervals, generally once a week. In University College Hospital, Dr. Radcliffe Crocker, the physician in this department, gives clinical lectures on diseases of the skin once a fortnight. A course of lectures is given in the Edinburgh Extra-academical School. In Dublin, a course of instruction on diseases of the skin is given at the Adelaide Hospital.

Orthopaedic Surgery is taught at St. Bartholomew's Hospital by Mr. Willett; and also at St. George's Hospital by Mr. Haward; and at the Westminster Hospital by Mr. Richard Davy. Mr. Hardie gives instruction on this subject at the Manchester Royal Infirmary.

Mental Diseases.—Lectures on Psychological Medicine are delivered as a separate course in most of the London schools. Special arrangements for clinical instruction are made in several instances; thus the students of St. Bartholomew's Hospital have access to a large public asylum; those of Guy's Hospital are admitted to Bethlem Hospital, and those of the London Hospital to Bethnal House. Two students of the London schools, qualified to practise, are appointed for six months as resident clinical assistants in Bethlem Hospital. At the Leeds School of Medicine, the students attend the West Riding Lunatic Asylum at Wakefield, where Dr. Major, the Medical Director, gives clinical lectures in addition to a course of systematic lectures at the school. The pupils of the Liverpool Royal Infirmary School of Medicine have the opportunity of receiving instruction at the Rainhill Asylum, from Dr. Rogers. In Manchester, demonstrations of the various forms of insanity are given to senior students by Mr. G. W. Mould, at the Asylum in Cheadle. At the Newcastle-on-Tyne College, instruction in psychological medicine is given by Mr. Wickham, medical superintendent of Coxbridge Asylum. In the University of Edinburgh, Dr. Clouston gives a course of Medical Psychology and Mental Diseases, with practical instruction at the Morningside Asylum. In the Extra-academical School, a similar course is delivered by Dr. Batty Tuke. In the Glasgow Royal Infirmary School of Medicine, a course of lectures on Mental Diseases is given by Dr. A. Robertson, in the City Parochial Asylum. In Dublin, special courses of lectures on mental diseases are given in the Richmond, Whitworth, and Hardwicke Hospitals, adjoining which is a large asylum containing over 1000 patients. The lectures on psychological medicine are mostly delivered during the summer session.

Public Health.—Special courses of lectures on this subject are given at St. Bartholomew's, Charing Cross, Guy's, the Middlesex, and St. Thomas's Hospitals, and at King's College. At St. George's Hospital, it is included in the course of Medicine; and at the London, St. Mary's, and Westminster Hospitals, in that on Forensic Medicine. In University College, besides the lectures, instruction in the chemical and microscopic examination of air, water, and food, is given in the hygienic laboratory. In most of the provincial schools the subject is included in the lectures on Forensic Medicine; in the Sheffield Medical School, a course of lectures is given by Dr. Drew, and in the Newcastle College of Medicine by Dr. Armstrong. In Scotland, also, the instruction in Public Health is given in connection with that on Medical Jurisprudence. In Dublin, there is a professorship of Hygiene in the school of the Royal College of Surgeons. In Owens College, Manchester, lectures on Hygiene are delivered by Professor Ransome.

PRACTICAL PHYSIOLOGY.—This subject is taught in most of the schools; but more elaborate provision is made in some cases than in others.

At *St. Bartholomew's Hospital*, the course embraces—1. Microscopic Anatomy or Histology; 2. Physiological Chemistry; 3. Physiological Physics. It is conducted by the demonstrators under the superintendence of the lecturers on Physiology and Chemistry. Dr. Klein gives a course of lectures on General Histology, with demonstrations. The lectures are delivered on Mondays, and form part of the course on General Anatomy and Physiology.

At *Guy's Hospital*, Mr. Golding-Bird gives a course of Histological demonstrations of the elementary tissues and the chief organs of the body, with their behaviour and reagents, as studied with the microscope. The course includes about thirty-three demonstrations, and is gone through twice in the winter session. A laboratory class in Practical Physiology, intended for advanced students, is held by Dr. Pye-Smith in the summer.

At *University College*, instruction in Practical Physiology is given by Dr. Burdon Sanderson (the Jodrell Professor of Physiology) and Mr. Schäfer (the Assistant Professor of Physiology). The course of Practical Physiology and Histology consists of practical lessons in Histology and the use of the Microscope, and in Chemical Physiology. The class is divided into two equal parts, which meet on alternate days. Physiological demonstrations are given from time to time in the laboratory.—A course of lectures on Embryology will be given during the summer session by the assistant professor of Physiology. In addition, a series of practical lessons will be given in the laboratory on the subjects treated of in the lectures.—Persons desirous of engaging in original investigation in Physiology and Histology may be admitted to the laboratory as workers on the nomination of the Jodrell Professor. An advanced course of practical Physiology, specially adapted to meet the requirements of candidates for the second B.Sc. Examinations of the University of London, will be given during the summer session.

At the *Westminster Hospital*, a course of lectures and demonstrations will be given by Dr. Murrell. The course will consist of three parts:—1. Thirty lectures and demonstrations in the Histology of the Simple Normal Tissues, delivered during May, June, and July; 2. Thirty lectures and demonstrations on the Histology of the Normal Organs and Viscera, delivered in October, November, and December; 3. A course of about twelve demonstrations on Physiological Chemistry.

In *Owens College, Manchester*, a very complete course of Practical Physiology is conducted during the summer by Dr. Arthur Gamgee, the Brackenbury Professor of Physiology. The class meets daily for Practical Histology in Chemical Work, and free demonstrations in Experimental Physiology. The Physiological Laboratory is open daily during the winter and summer sessions. It is proposed to admit the following classes of students, viz.: (a) those who intend to prosecute original researches in Experimental Physiology or Physiological Chemistry under the direction of the professor; and (b) those who desire to devote special attention to Histology.

Practical Physiology is taught in the University of Edinburgh, by Professor Rutherford; in that of Aberdeen, by Professor Stirling; and in that of Glasgow, by Professor Fleming. Courses are also given in the Edinburgh Extra-Academical School, and in the Glasgow Royal Infirmary School of Medicine and in Anderson's College.

HOSPITAL APPOINTMENTS.—Numerous appointments at the hospitals are open to the diligent student, without payment (except in the few cases hereinafter noticed) of any fee. For the resident appointments, a qualification to practise is required; and, in some instances, a salary is paid in addition to the provision of rooms and board.

At *St. Bartholomew's Hospital*, four house-physi-

cians and four house-surgeons are appointed annually. A resident midwifery assistant is appointed every six months; an ophthalmic house-surgeon is also appointed for six months, and may be re-elected. An assistant-chloroformist is appointed annually. Each of these officers is provided with rooms by the hospital authorities, and receives an annual salary of £25. Clinical clerks to the medical in-patients, and to the physician-accoucheur, also clerks and dressers for the out-patient and special departments, are chosen from among the students. Sixteen dressers for the surgical in-patients are selected each year; and other in-patient dresserships may be obtained on payment of £12 12s. for three months, £18 18s. for six months, or £26 5s. for twelve months.

At *Charing Cross Hospital*, a medical and a surgical registrar are appointed, each with a salary of £40 a year. A resident medical officer and a resident surgical officer are selected by competitive examination every six months from candidates qualified to practise. A resident obstetrical officer, assistant medical officer, and assistant surgical officer, are appointed every six months after examination, preference in each case being given to a legally-qualified man. The clinical clerks—three to each physician and two to each assistant-physician, and the dressers—three to each surgeon and assistant-surgeon, and also two clinical clerks to the physician-accoucheur, are appointed for periods of four months. A pathological assistant, who assists at the *post mortem* examination, is appointed for three months.

At *St. George's Hospital*, house-physicians and house-surgeons are appointed half yearly from among the perpetual pupils. The appointments are held for twelve months, with board and residence in the hospital free of expense. Each pays a deposit of 50 guineas, which is returned if the duties of his office have been satisfactorily performed. A curator of the Pathological Museum and a medical and a surgical registrar, each with a salary of £50; an ophthalmic registrar and a microscopic pathologist, each with a salary of £25; and an obstetric assistant, with board, residence, and a salary of £100, are appointed annually. An assistant house-physician, an assistant house-surgeon, and two assistant medical registrars, are appointed every six months; and an assistant surgical registrar from time to time. Clinical clerks and dressers are also appointed.

At *Guy's Hospital*, there are appointed during the year 6 senior and 6 junior house-physicians, 6 senior and 6 junior house-surgeons, 12 senior and 12 junior obstetric residents, 24 surgeons' dressers, 18 clinical assistants, 18 dressers in the eye wards, 24 *post mortem* clerks, 24 obstetric out-patient clerks, 32 assistant-physicians' clerks, 12 dental surgeons' dressers, 12 aural surgeons' dressers, 64 medical clinical clerks, 72 or more assistant-surgeons' dressers and dressers in the surgery, 80 surgical clinical clerks, 32 assistant-surgeons' clerks, 60 extern obstetric assistants, and clerks in the room for applying electricity. All students have opportunities of becoming clinical ward clerks to the physicians and surgeons, as well as dressers to the assistant-surgeons and dressers in the surgery; and the diligence with which they perform the duties of these offices is an important test of their fitness for the higher posts.

At *King's College Hospital*, a physician's assistant, two house-surgeons, a physician-accoucheur's assistant, clinical clerks, and dressers, are chosen by exa-

mination from matriculated students of the College who are pupils at the hospital.

At the *London Hospital*, every student is expected to act as clinical clerk to the medical out-patients for six weeks in his second year, and to dress for three months in the surgical out-patient department; also to act as *post mortem* clerk for three months. The following appointments are also made: five house-physicians (qualified for registration) every six months; clinical clerks (open to all full pupils) every six months; a resident accoucheur (qualified) every six months; a clinical obstetric clerk, every three months; four house-surgeons, for six months (each being provided with board and residence); surgical dressing pupils, three clinical assistants (each with a salary at the rate of £80 *per annum*), a medical and a surgical registrar (each with £100 *per annum*), a dental assistant, and ophthalmic and aural dressers.

At *St. Mary's Hospital*, three resident medical officers are appointed for twelve months, and a resident obstetric officer for six months. They all reside in the hospital free of expense. All students are required to perform the duties of clinical clerk and dresser for six months after passing the primary examination. Students of the third year are expected to assist in the out-patient department for three months. A medical registrar is appointed, with a salary of £100 a year.

At the *Middlesex Hospital*, two house-surgeons and three resident physicians' assistants are appointed by competitive examination. The resident physicians' assistants, and resident obstetric physician's assistant pay, on appointment, fees varying from ten to twenty guineas, according to circumstances. The appointments of clinical clerks and dressers are so arranged that every student may at some period of his attendance on hospital practice hold both a clerkship and a dressership.

At *St. Thomas's Hospital*, two house-physicians and two assistant house-physicians, two house-surgeons and two assistant house-surgeons, and a resident accoucheur, are selected from students who have obtained professional diplomas. An ophthalmic assistant, with a salary of £50, is also appointed. Clinical clerks and dressers to in-patients are selected from pupils, to the number in all of at least 48 each year; and clinical clerks and dressers to out-patients to the number of 40 or 50 each year. Two registrars, at an annual salary of £100 each, are appointed each year. There are also numerous minor appointments of anatomical assistants, prosectors, obstetric clerk, etc., open to all students.

In *University College Hospital*, six physicians' assistants, six house-surgeons, and four obstetric assistants, are selected annually by examination from among the senior students. Physicians' clerks, surgeons' dressers, ward clerks, and ophthalmic surgeon's assistants, are selected from among the pupils who are also students of the College. The physicians' assistants, obstetric assistant, and house-surgeons, pay for their board in the hospital.

At the *Westminster Hospital*, a curator of the museum and pathologist with a salary of £52 10s., a medical and a surgical registrar are appointed annually, each with a salary of £40. A house-physician, house-surgeon, and resident obstetric assistant, are appointed by examination for six months; each is required to pay a deposit of £20, but receives £25 at the expiration of his term of office if the duties have been performed satisfactorily. An assistant house-surgeon is appointed by examination. Clinical assistants to

the assistant-physicians and assistant-surgeons and to the officers in charge of special departments are appointed from among the most advanced students of the fourth year. Every student is expected to act as out-patient dresser during three months of his first year, and afterwards to hold the office of in-patient dresser and clinical clerk during a period of four months each.

In the *Birmingham General Hospital*, a resident medical and a resident surgical assistant, and two resident dressers, are appointed, each for six months.

At the *Queen's Hospital, Birmingham*, a resident obstetric assistant is appointed every six months, and a resident dresser every three months.

At the *Bristol Royal Infirmary*, students are appointed to clinical clerkships in their third and fourth years. The surgeons' dressers, when sufficiently qualified, reside in the hospital in weekly rotation, and act under the supervision of the house-surgeon. The dressers and clinical clerks pay fees in addition to those for hospital practice. A pathological clerk is appointed every four months. Apprentices to the house-surgeon are received for five years, and pay a fee of £315, which includes residence and hospital practice, but not dressership or clinical clerkship. House-pupils are also admitted at the rate of £52 10s. *per annum*, with a fee of £52 10s. to the house-surgeon.

At the *Bristol General Hospital*, clinical clerks, dressers, and obstetric clerks are appointed. The clinical clerks and dressers pay each an extra fee of £5 5s. for six months; and the obstetric clerks £3 3s. for three months. Resident pupils are received, and pay £100 for the first year, and £60 for each subsequent year; or £260 for five years.

In the *Leeds General Infirmary*, all students must hold the office of clinical clerk and dresser. A house-physician and house-surgeon are elected from time to time. There are four resident assistants; two are elected every six months, and hold office for one year.

At the *Liverpool Royal Infirmary*, two house-physicians and three house-surgeons are selected (by competitive examination if necessary) from pupils of the school who have obtained a qualification to practise; they hold office for six months. Three clinical clerks are appointed to each physician, and three or more dressers to each surgeon; they hold office for three months. *Post mortem* clerks are appointed for periods of six weeks. This appointment is required to be held by every student.

At the *Manchester Royal Infirmary*, a registrar and a pathological registrar are appointed annually. The following resident medical officers are appointed for two years: Infirmary, salary, £250 *per annum*; at Cheadle Lunatic Asylum, £150 *per annum*; at Monsall Fever Hospital, £200 *per annum*. A resident surgical officer is appointed annually, and receives £150; and an accident house-surgeon for six months, receives £40. Four physicians' assistants are appointed in each year; each holds office for six months, and receives £21. Four resident clinical clerks are appointed yearly for the Infirmary, two for Monsall, and two for Cheadle. Eight resident surgical dressers are appointed annually. The clerks and dressers hold office for six months.

In the *Newcastle-on-Tyne Infirmary*, four resident dressers are appointed twice a year; each pays a fee of £10 10s. for six months. Two assistants to the pathologist are appointed in May and December.

In the *Edinburgh Royal Infirmary*, four resident physicians and four resident surgeons are appointed

for six months. Clinical clerks are also appointed; and each surgeon appoints several dressers for six months. There are also assistants in the pathological department.

In the *Glasgow Royal Infirmary*, five physicians' and five surgeons' assistants are boarded and lodged in the Hospital at the rate of £25 *per annum*. The appointments can be held for twelve months, six in the medical and six in the surgical wards. These appointments are open to students who have passed all their examinations except the last, or to qualified gentlemen. There are also numerous clerkships and dresserships.

TUTORIAL INSTRUCTION.—In addition to the ordinary courses of lectures and hospital practice, and practical instruction, many of the medical schools have an officer whose special duty it is to direct the pupils in their studies, and to hold classes for the guidance of those who are about to present themselves for examination before the licensing boards.

At *St. Bartholomew's Hospital*, it is one of the duties of the warden to direct the studies of the resident students; but it is recommended that all students should seek his advice in questions relating to education. Students preparing for examinations are examined in classes by the lecturers, demonstrators, and medical tutors.

At *Guy's Hospital*, the medical and surgical registrars, and the demonstrators of Anatomy and Chemistry, assist pupils in their studies, and prepare them for their examination by special class instruction, throughout both sessions. Special classes are held for the assistance of students preparing for the Preliminary Scientific and first M.B. examinations of the University of London.

At *King's College*, a medical tutor assists, by instruction and examination, all students in the subjects of the lectures of their first winter and summer session, as well as those preparing for the Preliminary Scientific Examination of the University of London.

In the *London Hospital*, special attention is paid to the preparation of students for their examinations at the Colleges of Physicians and of Surgeons, the Apothecaries' Hall, and the University of London. Students are also prepared for the Matriculation, Preliminary Scientific, and first B.Sc. examinations of the University of London.

At *St. Mary's Hospital*, the medical tutor assists the students in preparing for their final examinations, testing their knowledge by various means.

In the *Middlesex Hospital*, the college tutor assists all general students, especially those who are preparing for their primary examination before any of the licensing boards; and his classes are arranged with a view to obviate the necessity of obtaining private teaching apart from that of the Medical School.

At *St. Thomas's Hospital*, classes are held for the preparation of students for the Preliminary Scientific and First M.B. examinations of the University of London.

In *University College*, gentlemen who desire assistance in their studies may obtain the same within the College on application to the respective professors.

At the *Westminster Hospital*, a tutorial staff will hold frequent *viva voce* and written examinations, to aid the students in their work and in preparations for examination. Special classes will be formed for

the assistance of students preparing for the examinations of the University of London.

In the *Queen's College, Birmingham*, there is a medical tutor, who holds classes for junior students throughout the winter and summer sessions. Special classes are also held for the examinations of the University of London.

In the *University of Durham College of Medicine*, at Newcastle-on-Tyne, a medical Tutor assists the pupils in their studies and in preparing for examination.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.—In addition to the rewards for diligence in professional study, many of the medical schools offer yearly one or more scholarships, usually in general literature, and in some instances in science. The competition is open to gentlemen about to commence their hospital studies; and the successful candidate is expected to enter as a pupil of the school in which the examination has been passed. In the examination in general literature, the subjects are usually those of preliminary education as defined by the General Medical Council, or of the Matriculation Examination of the University of London. In the Science scholarships, the usual subjects are Chemistry, Botany, and Zoology. The yearly value of the scholarships and exhibitions varies from £100 to £10.

There are also many scholarships and exhibitions, varying in value from £100 to £20, open to students during their period of professional study, or (as at St. George's Hospital) within a limited time after they have passed their final examinations for licences to practise. These exhibitions are in some cases (as at St. Bartholomew's and the London Hospitals) awarded after examination in subjects of preliminary education; but in most of the schools they are given after examination in groups of subjects of professional education, elementary or practical.

Special rewards are also offered in many of the schools for evidence of proficiency in clinical observation.

For further information respecting the scholarships and exhibitions, and regarding the class prizes, as well as for many details which we are obliged to omit, our readers must consult the prospectuses of the schools and our advertising columns.

MEDICAL GRADUATION IN FRANCE.

DEGREES in Medicine of the University of France are conferred by the Faculties of Paris, Montpellier, Nancy, and Lyons, under regulations laid down by the Government.

A Candidate for a degree in Medicine of the University of France must, when he enters on his medical studies, have attained his eighteenth year, and produce a certificate of his birth, duly legalised, and, if he be a minor, the consent of his father or guardian for the step he is taking. He must, likewise, be furnished with a certificate of his personal respectability (*bonne vie et mœurs*), and, if he be a minor, and his father or guardian do not live in town, he must find a surety. A course of study of four years is necessary before the student can be

admitted to examination for the degree of Doctor of Medicine, or of Medicine and Surgery. The student must enter in November, when the scholastic year begins. On lodging the above papers with the Secretary of the Faculty, together with the diploma of *bachelier-ès-lettres*, he must enter his name, etc., in a register kept for that purpose, and is given a *carte d'inscription*. He renews his inscription every quarter, until he has taken out sixteen inscriptions.

At the end of the first three years of study, the student has to submit to a series of preliminary examinations, termed *examen de fin d'année*, which is divided into three parts, and which may be passed at once or in the course of three years. The first comprises physics, chemistry, and natural history, considered in their applications to medicine; the elements of anatomy (bones, joints, and muscles), and the elements of physiology; and the third consists of medical and surgical pathology. By the end of the third year, if he have not done so before, the foreign as well as the French student must produce the diploma of *bachelier-ès-sciences* in the French University, for which he is examined in physics, chemistry, and natural history. For British students, however, the degree of Bachelor of Arts, or a certificate of having passed the matriculation examination of any of the Universities of Great Britain, would be accepted as equivalent to the French degree, for which latter the cost is 50 francs, or 2*l.* of English money. The examinations of the *fin d'année* take place in July of the first, second, and third scholastic years on the subjects mentioned above; failing in any of which, and in another trial in November, the student cannot present himself again for examination, nor take out another inscription, till after the lapse of a year. From the eighth to the sixteenth inscription, the student must attend a hospital. At the end of the fourth year he can go in for the final examinations for the degree of doctor, termed *examens du doctoral*, or *examens de réception*. These consist of five parts, and after them a thesis. The following are the subjects of the five examinations.

1. Anatomy, physiology, and histology, with dissection.
2. Medical and surgical pathology, operative surgery, operations on the dead body.
3. Medical natural history, medical physics, medical chemistry, pharmacology.
4. Hygiene, forensic medicine, *materia medica*, therapeutics.
5. Clinical medicine, clinical surgery, and clinical midwifery.

The last examination is strictly practical. Three cases (one of each in medicine, surgery, and midwifery) in the hospital are selected; and the diagnoses, prognoses, and treatment, are expected to be given.

The thesis consists of a dissertation in French, printed at the expense of the candidate, on a subject selected by him in medicine or surgery. The candidate has then to undergo a *vivâ voce* examination on the subject of his dissertation, and on fourteen questions drawn by lot, corresponding to the fourteen branches of medical science taught at the school, and which are printed at the end of the thesis.

The candidates are examined in French, *vivâ voce*, and one after the other, in the alphabetical order of their names, for three-quarters of an hour at each examination, before a board composed of a president and two or three members, all of whom are professors or professors *agrégés* of the faculty.

Before going up, however, for the examination of the thesis, the candidate has to submit at the secretary's office a certificate of the right to pass the examination, which he obtains from the Minister of Public Instruction, and at the same time deposit the price of his diploma, and the thesis in manuscript. He then selects a professor, whose duty will be to examine the thesis; and, if not disapproved, the thesis is printed.

In the event of the candidate being rejected, another trial is generally allowed at the end of three months.

For the degree of Doctor in Surgery, the candidate will have to submit to a further examination.

The fees, which are fixed by law, amount in all to 1,272 francs, or about 53l.

A foreigner holding medical qualifications to practise medicine, if desirous of obtaining the degree of the University of France, must show to the Minister of Public Instruction his diploma, and the certificates of the course of study which he has undergone in his own University or Medical School. The Minister, if satisfied, will authorise the candidate to present himself for the five final examinations (*examens de réception*). These are conducted in the French language. The fees are as follows: each examination 90 francs = 450 francs; thesis, 240 francs; fifteen inscriptions, 520 francs; three *examens de fin d'année*, 90 francs; diplomas of *bachelier ès lettres et ès sciences*, 100 francs; in all, 1,400 francs. It will be seen that the candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations, and those for the *bachelier ès lettres et ès sciences*.

The regulations affecting medical degrees in France have recently been altered by the French Government. The following is a translation of the code issued on June 20, 1878.

1. The studies necessary for obtaining the degree of Doctor of Medicine last four years; during the first three years they may be carried on either in the Faculties in the *Écoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a Faculty or in an *Ecole de plein exercice*.

2. The candidates must produce, when they take the first inscription, the diploma of Bachelor of Sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are divided into two parts. The *examens de fin d'année* are suppressed.

3. The five examinations are on the following subjects. *First Examination*: Physics, chemistry, medical natural history. *Second Examination*: First part, anatomy and histology; second part, physiology. *Third Examination*: First part, external pathology (surgery), midwifery, operative surgery; second part, internal pathology (medicine), general pathology. *Fourth Examination*: Hygiene, legal medicine, therapeutics, *materia medica*, and pharmacology. *Fifth Examination*: First part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy; and a thesis on a subject chosen by the candidate.

4. The first examination takes place after the fourth inscription and before the fifth; the first part of the second examination, after the tenth inscription, and before the twelfth; and the second part after the twelfth inscription and before the fourteenth.

The third examination cannot be passed until the expiration of the sixth *trimestre* of study. Any candidate who does not pass the first examination in November, at the latest, will be put back to the end of the scholastic year, and will not be permitted to take out any inscription during the course of that year.

5. Candidates for the doctorate, pupils of *écoles de plein exercice* or of the preparatory schools, are examined by the Faculties at the periods fixed in the preceding article. They may, however, without interrupting their studies, defer the first examination until after the twelfth inscription. In that case they must pass the second examination (first and second parts) before the thirteenth inscription, and, from the commencement of the second year of study, are subjected to interrogations at the end of each six months, the results of which are transmitted to the Faculties, to be taken into account in the examinations for the doctorate.

6. The inscriptions for *officier de santé* cannot, under any circumstances, be converted into inscriptions for the doctorate, in the case of pupils actually studying; this conversion may be permitted in the case of *officiers de santé* who have practised medicine for at least two years.

7. Practical work in the laboratory, dissection, and residence near the hospitals, are obligatory. Each annual period of laboratory work and dissection comprises a six months' course, or *semestre*. Residence near the hospitals must not continue less than two years.

8. The fees to be paid by candidates for the degree of Doctor in Medicine are fixed as follows: Sixteen inscriptions at 32 francs 50 centimes each = 520 francs; eight examinations at 30 francs = 240 francs.

Sixteen inscriptions at 32 francs 50 centimes each	...	...	...	520 francs.
Eight examinations at 30 francs	...	...	...	240 "
Eight certificates of proficiency at 25 francs	...	...	...	200 "
Expenses of materials for practical study, first year, 60 francs; second and third years, each 40 francs; fourth year, 20 francs	...	...	...	160 "
Thesis	...	...	...	100 "
Certificate of proficiency	...	...	...	40 "
Diploma	...	...	...	100 "

Total 1,360 "

9. Every candidate who, without an excuse admitted by the jury, does not answer when his name is called, on the day of which notice has been given to him, will be sent back for three months, and will forfeit the fees which he has paid.

10. The fees paid by the pupils of the Faculties go to the public treasury. The fees paid for inscriptions and for practical work by the pupils of the *écoles de plein exercice* and the preparatory schools go to the municipal treasuries.

11. The present decree will come into force on November 1st, 1879. Candidates inscribed before that time may choose whether they will undergo the new mode of examination or that existing. If they prefer the new mode they will have in all cases to undergo all the examinations established by section 3, as above.

MEDICAL EDUCATION IN FRANCE.

Medical Education is given in France in the several Faculties of Medicine, and also in certain schools.

FACULTY OF MEDICINE IN PARIS.

The School of Medicine in Paris is open not only to the French public, but to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 *francs* or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th of each year.

The instruction in the Faculty of Medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Bécclard, Physiology; M. Wurtz, Medical Chemistry; M. Baillou, Natural History; M. Gavarret, Medical Physics; M. Regnaud, Pharmacology; MM. Jacoud and Peter, Internal Pathology or Medicine; M. Trélat, External Pathology or Surgery; M. Le Fort, Practical Surgery; M. Hayem, *Materia Medica* and Therapeutics; M. Charcot, Pathological Anatomy; M. Pajot, Midwifery; M. Bouchardat, Hygiene; M. Tardieu, Forensic Medicine; M. Chauffard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Medicine; MM. G. Sée, Lasègue, Hardy, Potain, Clinical Medicine; MM. Gosselin, Richet, Broca, Verneuil, Clinical Surgery; M. Depaul, Clinical Midwifery; M. Parrot, History of Medicine; M. Ball, Diseases of the Mind and Nervous System. Supplementary courses are also given on Ophthalmology (M. Panas) and Diseases of the Skin, Diseases of Children, Venereal Diseases (M. Fournier).

The Faculty of Medicine possesses laboratories for Normal Histology (director, M. Ch. Robin), Physiology (Professor Bécclard), Pathological Anatomy (Professor Charcot), Experimental Pathology (Professor Vulpian), Therapeutics (M. Hayem), Biological Chemistry (M. Gautier), Pharmacology (Professor Regnaud).

In consequence of limited accommodation and restricted pecuniary means, these laboratories are, as a rule, incapable of being so useful as such institutions might be expected to be. It is found necessary to limit their use to medical men and to students who are pursuing researches for some definite purpose, such as the preparation of their theses. No payment is required; the demonstrators (*préparateurs*) aid with advice; the apparatus is at the disposal of the workers in the laboratories, but they generally have to pay for animals and other objects which they may require.

There is also a Chemical Laboratory belonging to the Faculty, to which the students are admitted without fee; they pay, however, the expenses incurred in their studies.

Attached to the Faculty of Medicine are the Orfila Museum of Anatomy and Zoology, at the École de Médecine; and the Dupuytren Museum of Pathological Anatomy, in the École Pratique.

The prizes of the Faculty of Medicine are the following. The Corvisart prize, a gold medal of the value of 400 *francs* (£16), is offered for competition to all pupils of the Faculty who have also entered

to one of the internal clinics. The subject is some question in medicine, the answer to which must be derived exclusively from the facts observed in hospital practice. The Monthyon prize, consisting of a vermilion medal and 300 *francs*, is awarded to the author of the best essay on the prevalent diseases of the preceding year, their characters, symptoms, and treatment. The Barbier prize of 2,000 *francs* (£80) is offered annually to the inventor of an operation, or of instruments, bandages, etc., of general utility and superior to anything of the kind that has been already in use. The Chateauvillard prize, also of 2,000 *francs*, is awarded yearly to the author of the best work on the medical sciences, printed between January 1 and December 31 in the preceding year. The works sent for competition must be in French. Graduation theses are admitted. An annual sum of 1,000 *francs* (£40) is awarded, under the will of the late Baron de Frémont, to a meritorious but poor student. The Lacaze prize of 10,000 *francs* (£400) is offered biennially for the best essay on phthisis or on typhoid fever—the subjects being taken alternately. After the examination of the theses, the Faculty names to the Minister of Public Instruction the candidates worthy of special distinction, in the form of gold medals, silver medals, and honourable mention.

THE COLLEGE OF FRANCE.

In this institution, the following courses of instruction on sciences allied to medicine are given, viz., a course of Experimental Medicine, by Dr. Brown-Séquard—lately conducted by M. Claude Bernard; and a course of General Anatomy, by M. Ranvier. The Histological Laboratory is under the direction of M. Ranvier, and is specially intended for the use of persons desirous of making original researches. The Physiological Laboratory, directed by Professor Marey, is open to persons who enter their names for the purpose with the secretary of the Faculty of Sciences, and who have a sufficient knowledge of physiology to enable them to undertake experimental research. The researches may have reference to any department of physiology; but special attention is paid in this laboratory to the phenomena of motion, and their registration by suitable apparatus.

FREE MEDICAL INSTRUCTION.

In addition to the professors in the Faculty of Medicine, there are a number of lecturers who are authorised to give instruction in the École Pratique of the Faculty. Among them are: Drs. Berger, Bourgeret, Debove, Dieulafoy, Hallopeau, Huchard, Labadie-Lagrave, Quinquaud, Straus, Troisier, etc. (internal pathology or medicine); Budin, Chéron, Migon, Pinard (obstetrics and gynaecology); Desmarres, Galezowski (diseases of the eye); Delefosse, Durant - Fardel, Lucas - Championnière, Picard, Reliquet (diseases of the urinary organs); Onimus, Vigouroux (electro-therapeutics); Fort (anatomy), etc.

THE HOSPITALS OF PARIS.

Pupils of the Faculty of Medicine in Paris attend, without payment, the practice of any of the hospitals which they may select. The visits of the physicians and surgeons are generally made at an early hour—8 or 9 A.M. The following is a list of these institutions:

Hôtel Dieu, Parvis Notre Dame.—416 beds. The hospital possesses laboratories for histology, and for

chemistry and physiology; also a library for the use of the *internes*.

Hôpital des Cliniques, 21, Place de l'école de Médecine.—159 beds. Students are only admitted to the obstetric department of this hospital when provided with a card, which is obtained from the Secretary of the Faculty of Medicine, after passing the second examination for the doctorate.

Hôpital de la Charité, 47, Rue Jacob.—504 beds. The library of this hospital contains a large number of works in anatomy, physiology, medicine, and surgery, including numerous theses.

Hôpital de la Pitié, 1, Rue Lacépède.—709 beds.

Hôpital Lariboisière, Rue Ambroise Paré.—634 beds. Besides the ordinary clinical instruction, instruction is also given in ophthalmic surgery and diseases of the larynx.

Hôpital Saint-Antoine, Rue de Faubourg Saint-Antoine.—594 beds.

Hôpital Necker, 151 Rue de Sèvres.—418 beds. The Civiale museum, containing numerous calculi and specimens of diseases of the urinary organs, is attached to the hospital.

Hôpital Beaujon, 208, Faubourg Saint-Honoré.—416 beds. The hospital possesses a library containing 200 volumes, and a large number of theses.

Hôpital Cochin, 17, Faubourg Saint-Jacques.—200 beds. An obstetric department is attached to this hospital; but only a limited number of students are admitted to the morning visit.

Hospice de la Salpêtrière, Boulevard de l'Hôpital.—3,069 beds for old persons, and 662 for female lunatics. There is a medical library, founded and supported by the *internes*; it contains more than 1,500 volumes. M. Charcot, one of the physicians, gives a course of instruction on diseases of the nervous system.

Hospice de Bicêtre.—1,794 beds for old persons, and 540 for male lunatics. There is also a small accident ward of ten beds. The library, which was founded in 1865, contains about 2,000 volumes.

Hôpital des Enfants Malades, 149 Rue de Sèvres.—518 beds. There are wards for acute and chronic diseases, small-pox, and diseases of the eye.

Hôpital Sainte-Eugénie, 89, Rue de Charenton.—346 beds.

Hôpital Saint-Louis, 40, Rue Bichat.—823 beds; of which 637 are occupied with cases of skin-disease, 28 with obstetric cases, and the rest with surgical cases. General Medicine is not taught in this hospital, but there are ample means for the special study of diseases of the skin, on which courses of theoretical and practical lectures are delivered. A museum containing several hundred models and drawings illustrating diseases of the skin; to which is added M. Fourmier's collection of illustrations of venereal diseases. The hospital is also rich in surgical cases.

Hôpital du Midi, 115, Boulevard de Port-Royal.—336 beds, devoted exclusively to the reception of cases of venereal disease.

Hôpital de Lourcine, 111, Rue de Lourcine.—243 beds. Students are admitted to the hospital by special ticket.

The *Hôpital Ménilmontant*, recently erected, contains 635 beds (including 48 for children), distributed as follows: medical, adults, 336; children, 20; surgical, adults, 183; children, 12; maternity, adults, 16; children, 16; small-pox, 30. Besides these, 193 beds can be added in cases of epidemics, etc.

The *Maison d'Accouchement*, 123, Boulevard de

Port-Royal, contains 316 beds. This hospital is employed exclusively for the education of midwives, and is not open to students of medicine. Attached to the hospital is a school for midwives.

HOSPITAL APPOINTMENTS IN PARIS: CONCOURS.

The following notes on hospital appointments in Paris are abridged from an article in *Le Progrès Médical*.

All the medical appointments in the hospitals of Paris are obtained by *concours*; and, when vacant, are eagerly competed for, not so much on account of the moderate material advantages which they offer, as for the great scientific resources which they assure to those who obtain them.

Each medical service is under the direction of a physician, and comprises also an *interne* and three or four *externes*. The organisation of the surgical departments is similar; but the number of pupils is greater, and there are generally two or three *internes* and five or six *externes*. In addition, each service has an *interne en pharmacie*; and each hospital possesses a chief *pharmacien* or dispenser.

The chief of the medical staff, physician or surgeon, receives annually a salary of 1,200 francs (48*l.*) in the central hospitals, and 1,500 francs (60*l.*) in the more distant ones. This would be an inadequate compensation for the time spent in the hospitals, were it not supplemented by the professional reputation gained, and by the opportunities of studying the pathology and treatment of disease more completely than can be done in private practice. The physicians retire from hospital duty at the age of 65, and the surgeons at 63. When first nominated, they have to attend the consultations at the central bureau, and to do duty for any of the hospital physicians or surgeons that may be absent. As vacancies occur in the hospitals, they receive appointments in the order of their nomination.

The *internes* and *externes* are nominated by *concours* for four years, and receive 500 francs *per annum* for the first two years, 600 francs the third year, and 700 francs the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 francs yearly in lieu of lodging.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn, to attend to urgent accidents and cases of illness. Beyond this, it is their interest to remain as much as possible in the hospital, in order to be able to avail themselves of the opportunities of clinical instruction which it affords. In order to increase their means of professional improvements, the *internes* of several of the hospitals have formed libraries, which are increased by voluntary donations and other means—some of them receiving grants from the municipal council.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honour. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honour. The successful candidate for the gold medal is entitled to two additional years of *internat*. The number of competitors is usually not small; it is not, however, to be inferred from this that the *internes* do not work.

Those candidates who are placed in the first list at the *concours* but do not succeed in getting appoint-

ments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *externat*, well employed, is a safe road to the *internat*. At the *concours*, the examiners can easily distinguish the candidates who have profited by their visits to the hospital. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city they receive 300 *francs* yearly.

The *concours* for the *externat* generally commences early in October and continues until the end of December. Candidates must not be under 18, nor above 25 years of age. They must produce—1. A register of birth; 2. A certificate of vaccination; 3. A certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; 4. A certificate of at least one inscription in the Faculty of Medicine. The examination consists in—1. An oral description of some subject in descriptive anatomy; 2. A similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. Twenty candidates are examined on each day. The maximum number of marks that can be gained by a candidate is 20 for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internat* takes place nearly at the same time as that for the *externat*. Candidates must not be more than 28 years old, and must produce certificate of having performed the duties of *externe* at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians or surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. The question is drawn by lot from three chosen by the jury of examiners. The candidates read their competitions before the examiners, and receive a number of marks, generally varying from 20 to 28 (the maximum being 30). After this, the candidates are classified, and a certain number only (about three for each vacant place) are admitted to the second examination. In this, a question in anatomy and pathology is proposed; ten minutes are allowed for consideration, and ten minutes for the oral answer. The maximum number of marks for this examination is 20. The examiners are selected in the same way as for the *externat*.

At the end of the *concours*, the candidates are classified according to the number of marks; and the 35 or 40 first on the list are nominated *internes*.

The first four candidates on the list are the successful candidates for the prize for *externes*, the examination for which is the same as that for the *internat*. The first receives a case of instruments of the value of 300 *francs*, and has, during his first year, the sum of 800 *francs* in addition to the payment which he receives in common with the other *internes*. The first and second candidates are also presented with books.

The prizes offered to the *internes* are competed

for in the beginning of November. The examination consists in—1. A written composition, for which two hours are allowed, bearing on anatomy, physiology, and pathology; 2. An oral description of some subject in external pathology; 3. A similar description of some subject in internal pathology (for each of these ten minutes are allowed); 4. *Internes* of the third and fourth years must also have sent in, before August 15, an original essay on some subject selected by them; this is generally based on observations made in the hospital. These essays are often of considerable merit, and are utilised for the graduation theses, or published in the Journals. The maxima of marks obtainable are: for the written composition, 30; for the essay, 40; for each oral examination, 20.

The Civile prize, of the value of 1,000 *francs*, is given every second year to the best essay by an *interne* on duty on some point in the pathology of the genito-urinary passages.

The *concours* at the Bureau central for the office of physician consists of five examinations. 1. The candidate gives a lecture for a quarter of an hour on a patient, for whose examination ten minutes are allowed. 2. A lecture of twenty minutes' duration, after twenty minutes' reflection, on some subject in medicine. 3. A written consultation on a medical case; ten minutes being allowed for examining the patient, and three-fourths of an hour for writing out the consultation. To each of those examinations a maximum of 20 marks is allotted. During these three examinations, a gradual process of elimination takes place, so that at last there remain five candidates for one place, eight for two, and ten for three places. These are then further subjected to the following tests: 1. A written composition, for which three hours are allowed, on some subject in medicine, which must comprise a question in pathological anatomy; 2. A lecture of thirty minutes' duration on two patients, twenty minutes being allowed for examining them. This is the most difficult part of the examination.

In the *concours* for the office of surgeon, the examinations are nearly the same; there is in addition, an examination in operative surgery, and the candidate has to lecture on one subject instead of two. The number of candidates is generally much smaller than that for the office of physician, and the elimination does not commence until after the third examination.

It is very rarely that a candidate is successful before his third or fourth *concours*; and there are instances in which very distinguished hospital medical officers have had to compete ten or twelve times.

MEDICAL EDUCATION IN THE PROVINCES.

The institutions in which medical education is given elsewhere than in Paris belong to three classes: 1. Faculties of Medicine, possessing the power to grant degrees; 2. *Ecoles de plein exercice*, where a full course of instruction is given, but where degrees are not granted; 3. Secondary or preparatory schools. The following are the conditions laid down by the French Government for the recognition of a Faculty of Medicine.

The city in which the school is established must pay a proper share of the expenses. There must be seventeen professorships; viz., Anatomy, Physiology, Internal Physiology (Medicine), General Pathology and Pathological Anatomy, Hygiene and Forensic Medicine, Operative Surgery, Therapeutics,

Materia Medica, Botany and Zoology, Medical Chemistry, Medical Physics, Pharmacy and Clinical Midwifery—each with one professor; and two professors each of Clinical Medicine and Clinical Surgery. There must also be eight assistant-professors; two each for the natural sciences, medicine and surgery, and one each for obstetrics, and for anatomy and physiology. These assistants are selected by *concours*, and appointed for ten years.

Faculty of Medicine of Montpellier.—Instruction is given in all the ordinary branches of medical education and in several special subjects; and there are laboratories of pathology and histology, physiology, chemistry, physics, legal medicine, and therapeutics. Clinical instruction is given at the General Hospital and the Hospital Saint-Eloi. A prize of 500 francs is given yearly to the author of the best thesis. The library, the anatomical museum, the botanical garden and the *conservatoire botanique*.

Faculty of Medicine of Nancy.—Clinical instruction is given at the Hospitals Saint-Charles (Medicine and Ophthalmology), Saint-Léon (Surgery), and Saint-Julien (old persons); and at the Maison de Secours (obstetrics and gynaecology, and syphilitic and cutaneous diseases). There are laboratories of physiological and pathological chemistry, physiology, pathology and pathological anatomy, and normal histology. Prizes are awarded at the end of each year of study, and there is a special prize for *internes*.

Faculty of Medicine and Pharmacy of Lyons.—In this Faculty there are professorships of Anatomy, Physiology, General Anatomy and Histology, Pathological Anatomy, Comparative and Experimental Medicine, Medical and Pharmaceutical Chemistry, Medical Physics, Natural History, Pharmacy, Internal Pathology (Medicine), External Pathology (Surgical), General Pathology and Therapeutics, Hygiene, Therapeutics, Materia Medica, Jurisprudence and Toxicology, Operative Surgery, Clinical Medicine, Clinical Surgery, Clinical Obstetrics, Clinical Ophthalmology, Skin Diseases and Syphilis, Mental Diseases. There are also supplementary courses of Diseases of Women (Clinical), Diseases of Children (Clinical), Surgical Diseases of Children (Clinical), Accouchements, Diseases of the Skin and Syphilis, and Medicine. There are also a number of Assistant Professors (*agrégés*) for the various subjects. Clinical instruction is given at Hôtel-Dieu (about 1,000 beds), in Medicine, Surgery, and Diseases of the Eye; at the Charité Hospital (about 800 beds) in Obstetrics, and Diseases of Women and Children; at the Antiquaille, in Diseases of the Skin and Syphilis; and in Mental Diseases at the Hospice de Bron, which contains 1,000 patients. Besides these hospitals, the Hôpital de la Croix Rousse, containing about 400 beds—although, in consequence of the distance, not attached to the Faculty—is available for clinical instruction; most of its medical staff being professors or *agrégés* in the Faculty. There is also a convalescent hospital at Longchêne, containing 100 beds. There are laboratories for the study of Anatomy and Operative Surgery, Physiology, Pathological Anatomy, Experimental and Comparative Medicine, Medical and Pharmaceutical Chemistry, Medical Physics, Natural History, and Pharmacy, and the students are obliged to devote a certain portion of their time each year to practical work in the laboratories. The number of students is actually 500, 300 of which study medicine, and 200 pharmacy.

OTHER PROVINCIAL MEDICAL SCHOOLS.—The *écoles de plein exercice* are at Nantes, Marseilles, Bordeaux, and Toulouse. (It was in contemplation some time ago to form the latter into a Faculty of Medicine.) There are secondary schools in Rennes, Angers, Poitiers, Arras, Besançon, Limoges, Clermont, and other towns.

MEDICAL DEGREES IN GERMANY.

IN the German empire there are twenty Universities which possess a Medical Faculty and grant degrees in Medicine; viz., those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

The following comments on medical organisation in Germany are abridged from an able article in the *American Journal of the Medical Sciences* for July 1878.

"The peculiarities of the medical institutions of Germany are largely due to the fact that, in the latter part of the seventeenth century, the Government established a network of medical officials over the country, and organised its own boards of examination for those who desire to become practising physicians, which boards were independent of the Universities. This system was intended to secure the best medical talent for the service of the government, but the result was not very satisfactory, and it was found difficult to obtain a sufficient supply of skilled medical men for the military service; and in Austria, Saxony, Prussia, and Russia, schools were established at the end of the eighteenth century for the purpose of educating army-surgeons.

"In the formation of these German military medical schools, as well as the similar establishment at St. Petersburg, the first idea of the Government seems to have been that the civil schools were deficient either in number or capacity. Moreover, they seem to have thought that they could retain physicians after they had got them educated.

"Neither of these theories was correct, for the foundation of the difficulty lay in the fact that the position of the army-surgeon on duty with a regiment was an inferior one, and distasteful to educated gentlemen. The army-officer looked down with quiet contempt and condescension on men who were non-combatants, and knew nothing of military tactics; and, as these positions of medical officers had for a long time been filled by men of the lowest class, it had been found possible to treat them as servants and appendages. Even at the present day, so persistent are traditions and customs in military matters, the majority of men trained in a military academy, when they come to realise the sweets of command, find it difficult to realise that a thoroughly trained physician is their equal, though, in fact, in general education, he is often their superior.

"Under the laws relating to State examinations and the central medical board, as no one could practise who had not passed the State examination, it was found necessary to provide for the wants of the poorer districts by authorising an inferior grade of practitioners, who were examined mainly in surgery and obstetrics, and who corresponded in most

respects to the *officier de santé* of France. Since the consolidation of the empire all this has been changed. At the present time any one can practise medicine in Germany without a diploma and without an examination, and the inferior legal class of practitioners is done away with. But no one may call himself, or allow himself to be called, physician (*Arzt*) unless he has passed the State examination, nor doctor unless he has obtained that title by the University examination; and these two titles are sharply separated. The doctor is not a physician (*Arzt*) unless he has passed the State board, and the *Arzt* is not a doctor unless he has passed the Faculty board. The man who is neither *Arzt* nor doctor practises at his peril; for, though he is not forbidden to do so, yet, if any mishap occurs from his ignorance, he is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

"The expenses of passing the State board are less than half those for the Faculty, and the examination is more exclusively practical; hence it is selected by the poorer students who seek only a rural practice.

"The majority of students pass both examinations, and this is especially necessary for those who aspire to any medical office.

"The preliminary examination is known as the *tentamen physicum*, and the same preliminary certificates are required as in Austria. It includes anatomy, physiology, chemistry, physics, botany, zoology, and mineralogy, and is usually passed at the end of the second year of university life. The State examination is divided into four parts, corresponding in all essential points to the Austrian *rigorosa*. In the examination in practical medicine and surgery, the candidate has to treat two or three cases in each branch for about a week, and to present a written account of these cases. A thesis for graduation is demanded in Germany, though not always printed.

"The number and character of professorial chairs in the medical faculties vary greatly in the different universities, but in all we find three classes of teachers, viz.: professors, extraordinary or assistant professors, and *privat-docents*.

"Thus, at Berlin, there are 14 professors, 14 assistants, and 37 *privat-docents*, with about 260 students; Kiel, the smallest University, with 97 students, has 7 professors and 6 *privat-docents*.

"The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the State or University—a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the minister of public instruction from a list of names recommended by the Faculty.

"The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*. As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

"The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some Universities they are furnished with rooms, and

given a share of the clinics; at others, they receive little or no assistance.

"There are no independent schools in Germany. No one can open a course on his own responsibility, and the Universities alone have the power to confer academic grades. The system of *privat-docents*, however, compensates in a great measure for this want of freedom. As the test of fitness for a degree in the University, or for the position of practitioner in the State, is, mainly, the ability to pass certain examinations, and as the salaries of the professors are guaranteed by the State, it is evident that it makes little difference as to precisely when, where, or how the student gets his information, provided only that he really gets it.

"There is, therefore, little objection to free, or, as it is sometimes called 'extramural teaching', and hence young men of ability can establish themselves as private teachers, demonstrators, etc., in the immediate vicinity of the Universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. These *privat-docents* are subject to certain regulations, and follow in a general way the teaching and directions of the professor of the special branch to which they attach themselves; they are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

"When a professorship becomes vacant in a German University, it may occasion several changes, especially if the position be an important one, because there immediately follows an effort to induce the best man from some other University to come and fill the vacant place, and, if this be successful, then there is another empty chair to fill, and so on. Of course, counter-inducements are held out by the Universities which wish to retain their famous men, and thus a sort of auction follows, in which sometimes the article sold, viz., the professor, can almost dictate his own terms. When we use the words 'auction' and 'sold', we do not by any means intend to imply that it is purely a matter of money. Social position, orders of nobility, handsome residences, or special facilities for scientific pursuits, are some of the various inducements that may be used.

"For instance, after the transfer of Strasburg to Germany, neither pains nor money was spared to make the University a success. For the chairs of the medical faculty rising men were selected, all of whom were known for original research and had practically proved their ability as teachers and writers. The chair of pathological anatomy was given to Recklinghausen, one of the most brilliant of Virchow's pupils. When the chair of pathological anatomy at Vienna became vacant by the retirement of Rokitsky, it was offered to Recklinghausen, and the salary proposed was 25,000 francs, or about three times the usual salary of such a professorship. But the Prussian Government was quite as anxious to retain Professor Recklinghausen as the Austrian Government was to obtain him, and asked him to say what he wanted. His reply was to demand, as the condition on which he would remain, that there should be constructed a large pathological institute, in accordance with his plans, and in connection with the hospital—an institute which will cost several hundred thousand dollars, and will require a change in the fortifications. His demand was acceded to, and he is hard at work now in Strasburg."

UNIVERSITY OF BERLIN.*

THE conditions for promotion to the Doctorate of Medicine, Surgery, and Midwifery, at the Royal Frederick William University at Berlin, are as follows.

1. Candidates wishing to be admitted to the promotion examination must have studied medicine at least four years in one or more Universities regularly constituted. Universities and Medical Colleges abroad are deemed equivalent to the Universities in Germany.

2. Candidates under 30 years of age who have not matriculated at this University, or who have left previously to their application for promotion, must matriculate again. This can be done free of cost. Both these and matriculated students of this University must, before making application for promotion, take out a preliminary certificate of having left, and will not receive the real certificate until after promotion.

3. The candidate has to make application to the Dean, handing in at the same time the documents mentioned under 1 and 2. He has then to pass a written and verbal preliminary examination before the Dean, to show his capacity, before being admitted to the *examen rigorosum* before the Faculty. The verbal examination is generally conducted in the German or Latin language, and extends, according to the judgment of the Dean, to all branches of theoretical and practical medicine. At the written examination, an *ex tempore* essay must be written, without any assistance, in a given time. According to the result of the preliminary examination, the Dean will or will not permit the candidate to be admitted to the *examen rigorosum*.

4. After the preliminary examination, the Dean will lay before the Faculty the documents having reference to the personality and the course of studies of the candidate, the judgment respecting the preliminary examination, and the essay composed thereat. Should that body decide for admission, the Dean will appoint as early a time as possible for the *examen rigorosum*. There are no fixed times for this examination; but, as a rule, there are no examinations held during the vacation in April, August, September, and October.

5. The *examen rigorosum* takes place before six members of the Faculty, is verbal only, and is concluded at one sitting, each of the examiners examining the candidate for a quarter of an hour. No branch of theoretical and practical medicine and surgery is excluded from the examination. It is generally held in German, but, if necessary, in Latin. From this examination no candidate can be exempted. If he be rejected, six months must elapse before re-admission.

6. After this, the candidate must present a German or Latin dissertation, to be criticised by the Faculty. The members of the Faculty are ready to advise the candidate as to the choice of a subject for his essay, and the working up of it, but the essay must be entirely original; and the candidate must declare on oath in writing that he has composed it entirely himself, without any aid from others. If the manuscript be pronounced good by the Faculty, the candidate will have to get printed, at his own expense (about 85 marks), by a certain printer, a prescribed number of copies. It must consist of at least two quires, and give evidence of a good scien-

tific knowledge. To this must be annexed a brief "curriculum vitæ", and at least three theses approved by the Dean.

7. After this, follows the public discussion in the Aula of the University, which is immediately connected with the solemn act of promotion. The discussion has reference both to the dissertation and to the theses. Next, the opponents chosen by the candidate, who must be at least three in number, divide on the subject. Their names must appear on the title page of the dissertation. Afterwards, anyone belonging to the University is at liberty (*e coronâ*) to oppose. Both the candidate and the opponents must be dressed in black on this occasion. The discussion will be either in German or in Latin. The Minister of educational affairs has the privilege of allowing the use of another language, and also of dispensing with the discussion.

8. After the discussion is ended, the oath-taking and promotion of the candidate as a Doctor of Medicine, Surgery, and Midwifery takes place, conducted by the Dean or his representatives. After the ceremony of promotion is completed, the Dean delivers the diploma to the newly created doctor, who inscribes his name in the book of the Faculty. The expense of making out the diploma (15 marks) is borne by the candidate. A copy of it is fixed on the black board of the Faculty, and a certain number of copies are delivered to the Registrar of the University, for distribution. Promotion *in absentia* can on no account take place.

9. Four hundred and forty *reichsmarks* must be paid to the Dean as fees for the degree of Doctor in Medicine, of which 221 marks must be paid on application, and are forfeited after the *examen rigorosum*, if the candidate be unsuccessful. The second portion (204 marks for the Faculty and 15 marks for the University library) may be paid either at the same time with the other or within the period between the *examen rigorosum* and the promotion. In addition to this, the candidate has to pay expenses of printing the dissertation and diploma (*vide* 6 and 8).

10. The shortest time in which the whole of the proceedings for obtaining a doctor's degree can be gone through is ten days. In this case, however, it is stipulated that the dissertation be delivered ready for printing to the Dean at the first application, and that the other business of the Faculty permits them to proceed at once to the examinations. As a rule, such a rapid succession of all the proceedings cannot be depended upon.

The Medical Faculty of this University consists of the following professors, with between forty and fifty *doctents* or private teachers. *Ordinary Professors*: B. von Langenbeck, Surgery and Clinical Surgery; K. B. Reichert, Anatomy; A. Bardeleben, Surgery and Clinical Surgery; R. Virchow, Pathology; F. T. Frerichs, Medicine and Clinical Medicine; E. Du Bois-Reymond, Physiology; A. Hirsch, Medicine and Epidemiology; E. Leyden, Medicine and Clinical Medicine; C. Schröder and A. Gusserow, Obstetrics and Gynaecology; O. Liebreich, Materia Medica and Chemistry; C. Schweigger, Diseases of the Eye and Ophthalmic Clinic; C. Westphal, Psychology and Psychiatric Clinic. *Extraordinary Professors*: E. Henoch, Diseases of Children; E. Gurlt, Practical Surgery; C. Liman, Forensic Medicine; C. Skrzeczka, Hygiene; J. Meyer, Medicine; R. Hartmann, Anatomy; G. Lewin, Dermatology and Syphilology; H. Jacobson, Medicine; E. Albrecht, Dental Surgery; H. Munk, Physiology;

* For much of the information in this and subsequent papers, we are indebted to Dr. Hardwicke's *Guide to European Universities*.

L. Waldenburg, Physical Diagnosis; A. Lucae, Aural Surgery; E. Salkowski, Chemistry; G. Fritsch, Physiology; O. Fräntzel, Medicine; H. Senator, Diseases of Children; F. Busch, Surgery; H. Kroneker, Physiology; — Fasbender, Gynaecology. The following professors also give instruction in subjects connected with medicine in the Philosophical Faculty. *Ordinary Professors:* — Schwendener, Botany; H. Helmholtz, Physics; W. Peters, Zoology; A. W. Hofmann, Chemistry. *Extraordinary Professors:* — Rammelsberg, Chemistry; A. Garcke, Botany; L. Kuy, Botany; P. Ascheron, Botany; E. von Martens, Zoology.

The institutions for Clinical treating connected with the University are: Professor von Langenbeck's Clinic for Surgery and Ophthalmic Surgery; the University Polyclinic; the Ophthalmic Polyclinic (Dr. Schweigger); the Obstetric Clinic; and in the Charité Hospital, the Medical Clinic (Dr. Frerichs), the Clinic for Elementary Medical Instruction (Dr. Leyden), the Surgical Clinic (Dr. Bardeleben), the Ophthalmic Clinic (Dr. Schweigger), the obstetric clinic, and the clinics for diseases of the skin and syphilis, for diseases of children, and for diseases of the mind and nervous system. The Pathological Institute is under the direction of Professor Virchow; the physiological laboratory under that of Professor Du Bois-Reymond; and the chemical laboratory under that of Professor Hofmann. The Pathological Institute, which owes its existence in its present form to Professor Virchow, and has served as the model for numerous similar institutions in Germany and elsewhere, is situated within the grounds of the Charité Hospital. It contains a lecture-theatre, a room for demonstrations, a museum, a chemical laboratory, a histological laboratory, a suite of rooms for the *post mortem* examinations, private rooms for the professor and his assistants, while in the basement floor there are kept animals for experiment.

UNIVERSITY OF BONN.

A DEGREE in Medicine, Surgery, and Midwifery, is granted only under the following conditions, viz.:

1. An examination in all branches of medicine and surgery, of about three hours' duration, in the German language.
2. A written scientific dissertation in German or Latin.
3. Public defence of the dissertation in German or Latin.
4. Fee for the examination and diploma, 360 marks (£18), which must be paid prior to examination.

The following are the Professors in the Medical Faculty of this University. *Ordinary Professors:* C. Binz, Materia Medica; W. Busch, Surgery; C. Köster, Pathology; Baron A. von La Valette St. George, Anatomy and Histology; F. von Leydig, Comparative Anatomy; E. Pflüger, Physiology; H. Rühle, Medicine; T. Sämisch, Diseases of the Eye; G. Veit, Gynaecology and Forensic Medicine. *Extraordinary Professors:* J. Doutrelepon, Surgery; C. von Mosengeil, Surgery; F. Obernier, Diseases of Children; H. Schaaffhausen, Physiology and Medicine; N. Zuntz, Anatomy and Histology. Instruction is also given in the Philosophical Faculty—*Ordinary Professors:* F. H. Troschel, Zoology; J. Hanstein, Botany; and A. Kekulé, Chemistry.

Connected with the University are medical, surgical, obstetric, and ophthalmic clinics; and anatomi-

cal, physiological, pathological, pharmacological, and chemical institutes.

UNIVERSITY OF Breslau.

THE following Professors belong to the Medical Faculty of this University. *Ordinary Professors:* A. Biermer, Medicine; E. Ponfick, Pathology; H. Fisher, Surgery; N. Förster, Ophthalmology; H. Häser, Materia Medica and Therapeutics; C. Hasse, Anatomy; R. P. H. Heidenhain, Physiology; O. Siegelberg, Obstetrics and Gynaecology. *Extraordinary Professors:* L. Auerbach, Comparative Anatomy; H. Cohn, Ophthalmology; W. A. Freund, Gynaecology; H. Freiburg, Forensic Medicine and Public Health; R. Gscheidlen, Physiology and Physiological Chemistry; K. I. Klopsch, Surgery; O. Simon, Diseases of the Skin and Syphilis; H. Neumann, Psychological Medicine; E. Richter, Surgery; R. Voltolini, Diseases of the Ear; L. Hirt, Hygiene; — Sommerbrodt; — Berger. There are also about fifteen private teachers. Instruction is also given in the Philosophical Faculty on subjects connected with medicine by—*Ordinary Professors:* C. J. Löwig, Chemistry; H. R. Göppert, Pharmacology; A. E. Grube, Zoology; T. Poleck, Chemistry in the Pharmaceutical, Forensic, and Hygienic Applications; F. Cohn, Botany.

UNIVERSITY OF ERLANGEN.

THE following are the regulations to be observed by candidates for the degree of Doctor of Medicine in this University.

1. Candidates for the degree of Doctor must announce their intention to the Dean of the Faculty of Medicine, and present the following documents: *a.* Evidence of having gone through the curriculum in a German gymnasium, or proof of equivalent general education; *b.* Proof of having studied medicine in one of the German Universities, or in a corresponding medical school abroad, during at least three years; *c.* A Thesis, composed by the candidate, on some subject in medicine or natural science, with a written declaration, on word of honour, that the work is absolutely the candidate's own.
2. The dissertation is examined by a referee, appointed by the dean; and, if it be judged to be of sufficient merit, the candidate is admitted to an oral examination, which is conducted in the German language. It may take place in two forms; *a.* As a colloquium, in the case of those who have passed an examination in medicine before a German examining board; *b.* As an extended examination on all departments of medical science, in the case of those who have not passed such an examination. The colloquium takes place under the presidency of the dean before three delegates of the Faculty; the detailed examination is conducted by the dean and four other members of the Faculty. Both the colloquium and the latter examination are held in public, and in German.
3. After the conclusion of the oral examination, the examiners decide on the result. If the decision be favourable, the degree of Doctor is at once conferred, the fact being communicated to the candidate by the dean, and his diploma issued to him.
4. The candidate, if his dissertation be approved, must have it printed at his own expense. At the back of the title-page it must be stated that the dissertation is printed with the consent of the Faculty;

and the name of the reporter (*referent*) must be given.

5. The candidate must pay a fee of 300 marks (equal to about 15*l.* 10*s.*) for the granting of the Doctor's degree, and must also deliver 150 copies of his dissertation to the Faculty.

6. If the candidate fail to pass the examination, half of the fee is returned to him.

The Medical Faculty of this University consists of the following professors and teachers. *Ordinary Professors*: J. Gerlach, Anatomy; F. A. Zenker, Pathology; W. Heineke, Surgery; I. Rosenthal, Physiology; W. O. Leube, Practice of Medicine and Clinics; J. Michel, Ophthalmology; P. Zweifel, Midwifery. *Extraordinary Professors*: H. Trott, Materia Medica and Hygiene; A. Wintrich, Medicine and Laryngology; F. W. Hagen, Psychological Medicine; W. Filehne, Materia Medica and Therapeutics. Instruction in subjects connected with medicine is also given in the Philosophical Faculty. *Ordinary Professors*: Volhard, Chemistry; M. Reess, Botany; A. Hilger, Pharmacy and Chemistry.

In connection with the university are the following institutions: the University Hospital, with medical, surgical, obstetric, psychiatric, and ophthalmic clinics; an anatomical, a physiological, and a pathological institute.

UNIVERSITY OF FREIBURG.

THE Faculty of Medicine here grants a degree in Medicine, Surgery, and Midwifery. The following are the conditions to be observed before being admitted to examination.

1. A certificate must be produced showing the respectability of the candidate, and also the amount of his education, both prior to and since his admission as a medical student.

2. A scientific dissertation must be handed to the Dean, written in German or Latin.

3. A fee of 300 marks (£15) must be paid to the Chief Beadle. In case of rejection, the candidate will receive half the fee back; and when he presents himself for examination again, he pays only that amount, viz., 150 marks.

Should these conditions be complied with, and the thesis be deemed satisfactory, the candidate will be admitted to a *viva voce* examination in the German language.

The following are the subjects of examination: Anatomy, Materia Medica and Toxicology, Physiology, Medicine, Surgery, Pathological Anatomy, Midwifery, Ophthalmology.

If a candidate have already passed an examination as Physician before a German commission of examiners, the number of subjects may be reduced.

If the examination be passed, one of the following grades of honour is conferred: 1. *Summâ cum laude*; 2. *Insigni cum laude*; 3. *Cum laude*.

The Medical Faculty of the University is thus constituted. *Ordinary Professors*: A. Ecker, Human and Comparative Anatomy; L. von Babo, Chemistry and Physiology; R. Maier, Pathological Anatomy and State Medicine; A. Hegar, Midwifery; F. Hildebrand, Botany; W. Manz, Ophthalmology; Ch. Bäumlér, Materia Medica and Medicine; G. F. L. Thomas, Materia Medica and Medicine; H. Maas, Surgery. *Extraordinary Professors*: A. Schinzinger, Surgery; R. Kaltenbach,

Midwifery; J. Latschenberger, Physiological Chemistry and Practical Physiology; R. Wiedersheim, Anatomy and Histology. There are also several *privat-docents*.—In the Philosophical Faculty, lectures on subjects connected with medicine are given by Professors A. Weismann in Zoology, and A. Claus in Chemistry.

The University library contains 250,000 volumes. There are a chemical laboratory and institutions for the practical study of anatomy, pathology, physiology, etc.; and medical, surgical, obstetric, and ophthalmic clinics.

The number of medical students attending the University in the summer session 1879 was 174.

UNIVERSITY OF GIESSEN.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Obstetrics, which can only be obtained on the following conditions.

1. A *curriculum vitæ*, written by himself, must be sent to the Faculty by the candidate; also a certificate of gymnasial maturity, and a certificate of at least three years' medical and surgical study at an University or a Medical Institution. If the candidate be not a native of Germany, he must produce a certificate of sufficient preliminary studies from his own country in place of the gymnasial maturity certificate (a degree in arts or certificate of having passed the matriculation examination for medical students at any recognised University is sufficient).

2. The candidate must present a dissertation on some medical subject, written in German or Latin, together with a declaration in his own handwriting that he has composed the dissertation himself, without help from others, except what may be stated by him. In place of the dissertation, a previously published treatise or literary production may be substituted.

3. In case of admission by the Faculty, the whole of the documents are laid before the Rector and the Chancellor, who may object to the admission if they be not satisfied.

4. If no objection be made by the Rector and Chancellor, and the candidate have paid the promotion fees to the Quæstor of the University, the dissertation is to be judged by a Referee. If the Referee declare the work to be unsatisfactory, the candidate is rejected. In the contrary case, he is admitted to *viva voce* examination before the Faculty.

5. The *viva voce* examination takes place in the German language, and lasts two or three hours. It is held in public, except when the candidate is already advanced in age, or in a few other cases when the Faculty decree that it may be held in private.

6. The verbal examination embraces the following subjects: Anatomy, Physiology, Pathological Anatomy, Histology, Pathology and Medicine, Materia Medica and Therapeutics (including Toxicology), Surgical Pathology and Surgery, Forensic Medicine, Obstetrics.

7. Immediately after the conclusion of the examination, the result is decided on by the President and examiners in a private sitting, and at once made known to the candidate by the President. The examination is not passed when two or more members of the Faculty declare the result of the examination to have been unsatisfactory. The kind of degree to be granted is decided by a majority of votes—whether "*cum laude*," "*magnâ cum laude*," or "*summâ cum laude*."

8. The approved dissertation must be printed and published, and the appointed number be presented to the Faculty before the promotion take place. Exception is made when the candidate has already handed in a printed treatise.

9. Promotions to the M.D. *in absentia* do not take place at this University, except in the case of degrees granted *honoris causa* by the unanimous decision of the Faculty, to men who have rendered some great service to the science of medicine.

10. The fee for promotion is 440 marks (£22), which must be paid to the Quæstor of the University at the time of the petition for admission. If the dissertation be not considered satisfactory, and the candidate in consequence be not admitted to the verbal examination, 100 marks are retained by the Faculty, and the rest returned to the candidate. If the verbal examination be not passed, then half the fees are forfeited; but, if the candidate present himself again, in this case he has only to pay half the fees.

11. At the end of the year, the Rector for the time being has to publish in the Hessian Grand Ducal Government Newspaper, and in some other national newspaper chosen by the University, the promotions that have taken place during his rectorship, with the position in life of those promoted.

The following are the professors in the Faculty of Medicine in this University. *Ordinary Professors*: — Bose, Surgery; J. Wilbrand, Forensic Medicine and Hygiene; R. Buchheim, Materia Medica; C. Eckhard, Physiology and Toxicology; Riegel, Medicine; F. Kehrer, Obstetrics and Gynæcology; M. Perls, Pathology; Hippel, Ophthalmology; Birnbaum, Diseases of Children; Spamer, Electro-therapeutics. There are also three *doctents*. In the Philosophical Faculty, subjects connected with medicine are taught by—*Ordinary Professors*: H. Will, Chemistry; H. Hoffmann, Botany; A. Schneider, Zoology. *Extraordinary Professors*: A. Naumann, Chemistry; A. Laubenheimer, Chemistry.

The University Library contains 140,000 volumes. There are an academical hospital, a lying-in institution, a chemical laboratory, a physiological and a pathological institute.

The number of medical students in the session of 1878-79 was 62.

UNIVERSITY OF GÖTTINGEN.

A DEGREE in Medicine, Surgery, and Obstetrics is granted under the following conditions.

1. A written essay must be sent in on any medical subject chosen by the candidate, on the result of which depends the entrance to the examination.

2. If the essay be considered satisfactory, the student is admitted to a *vivâ voce* examination, which lasts a few hours, and is always held in German or Latin, at the option of the candidate.

3. A fee of 439 marks (21l. 19s.) must be paid to the Medical Faculty prior to examination.

4. The subjects of examination are Anatomy and Morbid Anatomy, Physiology, Pharmacology, General Pathology and Medicine, Surgical Pathology and Surgery, Toxicology, Medical Jurisprudence, and Obstetrics.

If the candidate be successful, he receives a diploma, and promises to hold his academical honour with dignity.

The Medical Faculty of this University consists of the following professors, with private teachers.

Ordinary Professors: F. Wöhler and Hübner, Chemistry; — Lohmeyer, Surgery; J. Henle, Anatomy; G. Meissner, Physiology; H. Schwartz, Midwifery and Diseases of Women; L. Meyer, Psychological Medicine; Th. Leber, Ophthalmology; W. Ebstein, Medicine; W. Marmé, Materia Medica; F. König, Surgery; — Orth, Pathology; H. Eichhorst, Medicine and Diseases of Children. *Extraordinary Professors*: — Krause, Physiology and Forensic Medicine and Histology; E. F. W. Herbst, Physiology; A. Krämer, Medicine, and Diseases of the Skin, and Syphilis; T. Husemann, Materia Medica and Toxicology. In the Philosophical Faculty instruction is given by—*Professors*: — Reinke, Botany; F. Ehlers, Zoology; H. Hübner, Chemistry. *Extraordinary Professors*: H. A. L. Wiggers, Pharmacy; C. Boedecker, Physiological Chemistry; L. von Usler, Organic and Pharmaceutical Chemistry.

The following institutions are connected with the Medical Faculty: institutions for teaching animal and vegetable physiology, and pharmacology, and pathology; the Ernst-August hospital; a lying-in hospital; a psychiatric clinic in the Lunatic Asylum; a chemical laboratory; and a veterinary institute.

The number of students attending the Faculty of Medicine in the summer session of 1879 was 141.

UNIVERSITY OF GREIFSWALD.

THE Medical Faculty of this University consists of the following professors and teachers. *Ordinary Professors*: J. Budge, Anatomy; H. C. A. Pernice, Midwifery and Diseases of Women; F. Grohé, Pathological Anatomy; F. Mosler, Pathology and Therapeutics; C. Hüter, Surgery; L. Landois, Physiology; R. Schirmer, Ophthalmic Surgery; A. Eulenberg, Materia Medica. *Extraordinary Professors*: C. Eichstedt, Diseases of the Skin and Syphilis; W. Häckermann, Forensic Medicine and Hygiene; R. Arndt, Psychology and Nervous Diseases; P. Vogt, Surgery; — Krabler, Diseases of Children. There are also several *doctents*. Instruction is given in the Philosophical Faculty in Botany, by Professor A. H. A. J. Münster; Chemistry by Professors Limprecht and Schwanert; Comparative Anatomy and Zoology, by Professor A. Gerstäker; Physiological Chemistry, by Extraordinary Professor F. Baumstark.

The University Hospital contains medical, surgical, ophthalmic, and obstetric clinics.

UNIVERSITY OF HALLE.

THE following are the regulations for the medical degree.

1. Application for admission to the examinations for medical promotion must be made to the Dean, and at the same time must be presented: (a) a curriculum vitæ; (b) certificate of maturity from a gymnasium; (c) certificate of having passed a *tentamen physicum* at least two years previously; (d) certificates of leaving, from the Universities, over at least eight medical scholastic half years. Whoever is unable to present these certificates complete, and in the manner specified, must obtain a dispensation from the Chief Manager, through the University's Curatorium.

2. On making application, 360 marks must be paid to the Dean for the examinations and the promotion, besides which, 12 marks must be paid before the promotion to the Secretary of the University.

3. The examinations are held on two consecutive days, by the regular professors of the Faculty, on each of which days the result of the examination is made known to the candidate.

4. After passing his examination, the candidate must compose a scientific treatise on any subject he pleases in medical science, and deliver it to the Dean as an inaugural dissertation, together with the theses, to be publicly discussed, and the *curriculum vitæ* for examination and approval; the same when printed must fill at least two quires. The candidate must bear the cost of printing both the treatise and the diploma; but the diploma must be laid before the Dean for approval before being printed. Of the treatise, 172 copies must be delivered to the Secretary of the University at least three days before the promotion, and 40 copies of the diploma, when the Secretary will give a receipt in the name of the Dean, and also for the 12 *marks* mentioned under No. 2.

5. The candidates have to request all the examiners personally to be present at the examination, likewise the members of the Faculty, when handing over the printed treatise for promotion.

6. In the application for promotion, the candidate solicits from the Dean, in a few preliminary words, permission to defend his treatise and the theses; and this takes place, then, against two previously appointed opponents; after which, those present (both from within and without the boundaries), are also called upon to join in the discussion). After the discussion is ended, the candidate begs the Dean to grant him the degree of Doctor; and this is done by administering the doctoral oath, and delivering the diploma.

7. Whoever fails to pass the examination, which includes all branches of medicine and surgery, will receive back from the fees paid 40¼ *marks*; the rest goes to the Faculty.

8. The time for taking the degree is left for the candidate to appoint. He must not, however, exceed one year from the time of passing the examination to the taking of the degree, or else he will have to submit to re-examination, and must pay over again all the fees.

The following professors, with several private teachers, constitute the Medical Faculty of this University. *Ordinary Professors*: J. Vogel, Medicine; L. Krahmer, *Materia Medica* and Forensic Medicine; Th. Weber, Medicine; R. Olshausen, Obstetrics and Gynæcology; Th. Ackermann, Pathology; H. Welcker, Anatomy; R. Volkmann, Surgery; J. Bernstein, Physiology; A. Gräfe, Ophthalmology; F. E. W. Steudener, Histology. *Extraordinary Professors*: H. Schwartze, Diseases of the Ear; O. Nasse, Physiology; H. Köhler, *Materia Medica* and Toxicology; M. Köppe, Psychological Medicine; E. Kohlschütter, Medicine; H. Fritsch. In the Philosophical Faculty, instruction in Sciences connected with Medicine is given by—*Professors* W. H. Heintz, Chemistry; C. Giebel, Zoology; G. Kraus, Botany.

The University library contains 100,000 volumes. Connected with the University are a chemical laboratory, a botanical garden, a zoological museum, an anatomical theatre and zoological museum, a lying-in institution, a medico-chirurgical hospital, and physiological, pathological, and pharmaceutical laboratories.

UNIVERSITY OF HEIDELBERG.

THE following are the regulations to be observed for graduation in medicine in this University.

1. In applying for examination for the degree of Doctor, no evidence of a previous course of study is required.

2. The same demands are made of all candidates; the only difference is that the oral examination is shortened if evidence be produced that the candidate has undergone, in the German empire, the *Staats-examen* for license to practise.

3. The subjects of examination are (1) Anatomy; (2) Physiology; (3) Pathological Anatomy; (4) *Materia Medica* (Pharmacognostics, Pharmacodynamics, and Toxicology); (5) Medicine; (6) Surgery; (7) Midwifery; (8) Ophthalmic Surgery.

4. A candidate may select one of these as the principal subject of his examination. All the other subjects then become secondary.

5. The examination is oral and written. The oral examination can only be conducted in the German language.

6. The written part of the examination consists of a medical dissertation in German or Latin, which must be given in before the oral examination. The dean of the Faculty of Medicine delivers the dissertation (or a scientific publication by the candidate, which may be substituted for it) to a reporter for his opinion. The reporter is authorised to hold a conversation with the candidate on the subject treated of in the work. In voting on the dissertation, the question is put whether it shall be allowed to be printed. If it be printed, the names of the dean for the time being, and of the reporter, must appear on the title-page.

7. The oral examination comprises the principal subject chosen by the candidate, and a certain number of the secondary subjects. The number and selection of the secondary subjects vary, according as the state-examination has or has not been passed. If proof be given that a state-examination has been passed in the German Empire, the candidate is examined in the principal subject, and in three of the secondary subjects, selected by himself. If there be no proof of a state-examination, he is examined in five secondary subjects. Of these, three are fixed—Anatomy, Physiology, and Pathological Anatomy; the other two may be chosen by the candidate. But if one of the three fixed subjects be chosen by the candidate as the principal subject, its place as a secondary subject is taken by another, selected by the candidate.

8. The duration of the oral examination depends on the number of subjects. The candidate is examined on the principal subject for thirty minutes, on each secondary one for fifteen or twenty minutes, according to the judgment of the examiners.

9. On the result of the entire examination, three notes are granted. The first (*summâ cum laude*) can only be granted when the dissertation has received the *imprimatur* of the Faculty. Even when the *imprimatur* has been received, the result of the oral examination may be such to entitle the candidate to the second vote (*insigni cum laude*) or to the third (*cum laude*).

10. No oath is administered. When the diploma is delivered to the candidate by the dean, he has to give his hand in promise that he will bear his academic dignity with honour.

11. The cost of the examination, exclusive of that of the diploma, amounts in all to 444 marks (about

22l. 5s.), which must be paid before the commencement of the examination. Of this sum, if the oral examination be not passed, 179 marks (about 9l.) are returned.

12. The diploma contains a record of the principal subject, the vote on the whole examination, and the judgment on the dissertation.

The Medical Faculty consists of the following professors, with several teachers. *Ordinary Professors*: W. Lange, Midwifery; W. Delfs, Chemistry; N. Friedreich, Medicine, Practice of Medicine, and Clinics; C. Gegenbaur, Human Anatomy and Embryology; W. Kühne, Physiology and Histology; O. Becker, Ophthalmology; Th. von Dusch, Diseases of Children; J. Arnold, Pathology; V. Czerny, Surgery. *Honorary Professor*: A. Nuhn, Human and Comparative Anatomy. *Extraordinary Professors*: H. Oppenheimer, Therapeutics; S. Moos, Diseases of the Ears; F. Knauss, Forensic Medicine and Hygiene; W. Erb, Diseases of the Nervous System and Electro-therapeutics; H. Lossen, Surgery; A. Weil, Medicine and Diseases of the Skin, and Syphilis. In the Philosophical Faculty, instruction in subjects connected with medicine is given by—*Ordinary Professors*: R. Bunsen, Chemistry; H. Kopp, Chemistry; E. Pfitzer, Botany. *Extraordinary Professors*: A. Bonrträger, Pharmacy; A. Horstmann, Chemistry.

In connection with the University are a hospital, with medical, surgical, and ophthalmic clinics, an institution for diseases of the ear, a lying-in institution, anatomical, pathological, physiological, and zoological institutes, two chemical laboratories, and a botanical garden.

UNIVERSITY OF JENA.

THE Faculty of Medicine of this University grants a degree in Medicine, Surgery, and Obstetrics, the conditions for which are as follows.

1. Certificate to be given as to the extent of medical studies and the period of time which has elapsed since their completion (at least six terms).
2. Satisfactory evidence as to character, from the neighbouring head office of police.
3. A written essay upon any subject of medical science, in German or Latin. The same composition may be given up, to be printed afterwards in the form of a dissertation.
4. Matriculation into this University. This is done when, upon fulfilment of the other conditions, the candidate himself makes his appearance.
5. Payment of examination and promotion fees must be made to the amount of 141 *thalers* (about 22l.) In case the examination is not passed, the promotion fees and 52 *thalers* are returned.

The examination will be held in the German language only. It comprises all branches of medicine, viz.: Anatomy, Physiology, Histology, General Pathology, Pathological Anatomy, Special Pathology, Medicine, Therapeutics, Surgery, Obstetrics, etc.

The Faculty holds examinations from the first day of November to the 15th day of March, and from the first day of May to the 15th day of August.

When the examination is passed, the student has to give in his dissertation, the subject of which he chooses for himself. The Faculty examines the work to see whether it is worth publication. A dispensation from the Latin or German disputation

may be granted when the examination is very satisfactorily passed.

After the essay is printed, and also when the public disputation is over, the making out of the medical diploma takes place.

The degree of Doctor will only be granted in this University by the Faculty upon fulfilment of the above-named conditions.

The Medical Faculty of this University is constituted as follows. *Ordinary Professors*: F. Ried, Surgery; B. S. Schultze and Franck, Obstetrics; W. Müller, Pathology; W. Preyer, Physiology; G. Schwalbe, Anatomy; H. Nothnagel, Medicine, Clinics, and Practice of Medicine. *Extraordinary Professors*: P. Schillbach, Diseases of the Eye and Ear; F. Siebert, Psychology; M. Seidel, Materia Medica; C. Frommann, Helminthology and Histology; C. Bardeleben, Anatomy. There are also two private teachers. Subjects connected with Medicine are also taught in the Philosophical Faculty by—*Professors*: G. A. Geuther, Chemistry; E. Häckel, Zoology. *Extraordinary Professors*: W. Artus, General and Pharmaceutical Chemistry; E. Reichardt, Chemistry; E. Hallier, Botany.

Connected with the University are the Grand-Ducal hospital, lying-in institution, and lunatic asylum; anatomical, zoological, physiological, pathological, and chemical laboratories and museums, etc.

The fees are 5 marks a lecture for the whole of the session. Clinics and Demonstrations the same, as a rule. Number of medical students at present, 100.

UNIVERSITY OF KIEL.

THE following are the conditions for obtaining the medical degree:

1. The presentation on application of (a) a *curriculum vitae*; (b) certificate of medical studies; (c) a scientific treatise;
2. A written examination;
3. A verbal examination before the Faculty;
4. Payment of 360 marks.

In this University the Medical Faculty consists of the following professors, with six private teachers. *Ordinary Professors*: C. C. T. Litzmann, Obstetrics and Gynaecology; F. Esmarch, Surgery; H. Quincke, Medicine; V. Henson, Physiology; A. Heller, Pathology; C. Volckers, Diseases of the Eye; W. Flemming, Anatomy. *Extraordinary Professors*: J. Bockendahl, Forensic Medicine; F. Petersen, Surgery; A. Pansch, Anatomy; F. A. Falck. Instruction is also given in the Philosophical Faculty by *Ordinary Professors*: C. Himly, Chemistry; A. W. Eichler, Botany; A. Ladenburg, Chemistry.

There are a medico-surgical hospital, a lying-in institution, and laboratories and museums in connection with the several subjects taught.

The number of students attending the medical classes in the summer session of 1879 was 97.

UNIVERSITY OF KÖNIGSBERG.

THE Medical Faculty of this University consists of the following professors, with five private teachers. *Ordinary Professors*: G. Hirsch; W. von Wittich, Physiology; H. Hildebrand, Obstetrics; — Anatomy; E. Neumann, Pathology; C. Schönborn, Surgery; B. Naunyn, Medicine; J. Jacobson, Oph-

thalmology; M. Jaffe, *Materia Medica*. *Extraordinary Professors*: H. Bohn, Diseases of the Skin; A. W. Grünhagen, Histology and Histological Chemistry; S. Samuel, Therapeutics; A. von Hippel, Ophthalmology; S. Pincus, Forensic Medicine; E. Berthold, Diseases of the Eye and Ear; F. R. A. Schneider, Surgery and Military Surgery; H. Benecke, Anatomy; — Burow, Surgery; — Caspary. Lectures are also given in the Philosophical Faculty by *Professors* R. Caspary, Botany; G. Zaddach, Zoology; H. Spirgatis, Chemistry; W. Lossen, Chemistry.

Connected with the University are anatomical, pathological, and physiological institutions, medical, surgical, obstetrical, and ophthalmic clinics; chemical and pharmaceutical laboratories, etc.

UNIVERSITY OF LEIPZIG.

THE Medical Faculty of this University consists of the following professors and a number of private teachers. *Ordinary Professors*: F. Hofmann, Hygiene and Pharmacology; E. Wagner, Clinical Medicine; K. S. F. Credé, Midwifery; J. Cohnheim, Pathological Anatomy; K. Ludwig, Physiology; K. Thiersch, Surgery; E. A. Coccus, Ophthalmology; W. His, Anatomy; W. Braune, Anatomy. *Extraordinary Professors*: H. Sonnenkalb, Forensic Medicine and Hygiene; J. V. Carus, Zoology and Comparative Anatomy; A. Winter, *Materia Medica*; F. Germann, Obstetrics; K. Hennig, Obstetrics; K. H. Reclam, Forensic Medicine and Hygiene; B. Schmidt, Surgery; E. Wenzel, Anatomy and Histology; J. L. O. Heubner, Medicine; R. Hagen, Otolaryngology, etc.; F. Ahlfeld, Obstetrics; P. Flechsig, Anatomy and Histology. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors*: H. Kolbe, Chemistry; A. Schenck, Botany; R. Leuckart, Zoology; G. Wiedemann, Chemistry. *Extraordinary Professor*: H. Hirzel, Pharmacy.

In connection with the University are chemical, physico-chemical, and Pathologico-chemical laboratories: a zoological institute, under the direction of Professor Leuckhardt; an anatomical institute, under Professor His; a physiological institute, under Professor Ludwig; and various clinics, etc.

The number of students in the Medical Faculty during the summer 1879 was 389.

UNIVERSITY OF MARBURG.

ANY one wishing to proceed to the medical degree at this University must send in to the Dean of the Faculty of Medicine the following:

1. A *curriculum vitae*;
2. A certificate of scientific studies;
3. A certificate of at least four years' study at a recognised University or Medical College;
4. A dissertation in the German language.

If these be considered satisfactory by the Faculty, the candidate is then admitted to a *viva voce* examination in the German language. If the examination be satisfactorily passed, the dissertation must be printed, at the candidate's expense, and publicly defended. Three or four printed theses must also be sent in. The cost for the diploma is 330 marks (16l. 10s.)

The following are the professors in the Medical Faculty of this University. *Ordinary Professors*: K. F. von Heusinger, Pathology and Therapeutics; H. Nasse, Physiology; W. Roser, Surgery; C. P.

Falck, Medicine; R. Dohrn, Midwifery; N. Lieberkühn, Anatomy; F. W. Benecke, Pathological Anatomy and General Pathology; E. Mannkopff, Pathology and Therapeutics; H. Schmidt-Rimpler, Ophthalmology; H. Kramer, Psychology. *Extraordinary Professors*: G. Wagener, Anatomy; H. Horstmann, Forensic Medicine; H. Lahs, Midwifery; E. Külz, Physiology and Philosophical Chemistry. Lectures are also given in the Physiological Faculty by—*Ordinary Professors*: C. Zwenger, Pharmaceutical Chemistry; A. Wigand, Botany; R. Greeff, Zoology; T. Zincke, Chemistry.

A hospital and various laboratories, etc., for practical instruction are connected with the University.

UNIVERSITY OF MUNICH.

IN granting medical degrees at this University, a distinction will in future be made between those candidates who have already passed a satisfactory public examination as Physicians before a German Commission of Examiners, and those who have not, be they natives or foreigners.

From those candidates who have already passed the satisfactory German examination, nothing further is required in order to admit them to compete for the doctorate than the certificate of having passed such examination. The Medical Faculty dispenses such candidates from a repetition of an examination of that kind, as the having passed satisfactorily that examination shows that they have fulfilled all the necessary stipulations, and that they possess the requisite theoretical and practical knowledge.

The Faculty requires, however, the presentation of a dissertation, written in either the Latin or German language. This is delivered by the Dean to one of the members of the Faculty for examination and judgment, and with his judgment it is circulated amongst the Faculty. If the Faculty approve of it, then it is printed at the expense of the candidate, for the members of the Faculty.

Candidates, however, who have not passed the German "Approbation-examination" for Physicians must, before being admitted to the doctorate examination, present to the Medical Faculty the following:

1. A gymnasial certificate, or at least such certificate as shows that the candidate has enjoyed a regular education;
2. Certificates of at least four years' attendance at a university or medical institution, and of attendance at the lectures on the principal branches of natural science and medicine;
3. Clinical certificates of the treatment of an internal surgical and eye complaint, and also assistance at a birth;
4. A certificate of the performance of an operation on the dead body, and the application of a bandage.
5. The candidate must then pass a two hours' verbal examination (in the German language) in the following branches, viz.: Anatomy, Physiology, General Pathology and Pathological Anatomy, *Materia Medica*, Therapeutics, Surgery, Midwifery, Hygiene, Diseases of the Eye.
6. The candidate has also to give in a dissertation, which must be examined by a member of the Faculty to see whether it is worthy of being printed. The printing may be dispensed with at the request of the candidate.
7. The fees for examination and promotion amount,

for both kinds of candidates, to 100 *thalers*, 300 *marks*, or 175 *florins* (15*l*.)

The professorial staff of the Medical Faculty of this University is constituted as follows. *Ordinary Professors*: F. X. von Gietl, Medicine; F. C. von Rothmund, Surgery and Clinical Surgery; C. T. von Siebold, Zoology and Comparative Anatomy; N. Rüdinger, Anatomy and Physiology; F. Seitz, *Materia Medica* and Medicine; L. A. Buchner, Pharmacy; M. von Pettenkofer, Hygiene; W. F. C. von Hecker, Midwifery; L. von Buhl, General Pathology and Pathological Anatomy; J. N. von Nussbaum, Surgery, Ophthalmology, and Clinical Surgery; A. von Rothmund, jun., Ophthalmology; C. Voit, Physiology; H. von Ziemssen, Special Pathology and Therapeutics; B. von Gudden, Psychology. *Extraordinary Professors*: T. von Hessling, Histology; — Bonnet, Histology; O. Bollinger, Infectious Diseases; H. Ranke, *Materia Medica* and Medicine; J. Amann, Midwifery; A. Martin, State Medicine; J. Oertel, Laryngoscopy; H. von Böck, Toxicology; J. Bauer, Medicine. Instruction in Chemistry is also given in the Philosophical Faculty.

The University is situated in the Ludwigsstrasse, is a new building, and contains a library consisting of 500,000 volumes, the largest after Paris and London.

Among the auxiliary institutions, the chemical laboratory for hygiene is under the direction of Professor von Pettenkofer.

UNIVERSITY OF ROSTOCK.

WHOEVER wishes to graduate as "*Medicinæ, Chirurgiæ, et Artis Obstetriciæ Doctor*" at this University, must apply to the Dean of the Medical Faculty, and deliver to him at the same time the following documents:

1. A certificate of having gone through the requisite course of studies in a university;
2. A certificate of examination, testifying to the ability of the candidate in the practice of medicine;
3. A treatise on any subject appertaining to medical science, composed by the candidate himself. A fee of 350 *marks* must be paid to the Faculty at the same time, of which two-thirds will be returned provided the treatise is not deemed satisfactory.

The Medical Faculty consider the certificate of maturity from a German gymnasium a necessary preliminary condition for professional medical studies.

The proof of having passed a satisfactory examination in Germany is, under all circumstances, satisfactory. If, however, this document should not appear satisfactory, or cannot be presented at all, the Faculty require that the candidate be subjected to an examination by the Faculty which shall pretty nearly correspond to the German States' Examination. For this examination, an additional 200 *marks* must be paid to the Faculty. Only for special cases does the Faculty reserve to itself a special form of examination.

The inaugural dissertation must be the candidate's own, and he must append to his treatise a written declaration to that effect. It is not, however, required that the work be composed entirely without assistance; but in this case, the literary resources, and also the name of him or them from whom he has received help, must be clearly and distinctly stated. Those essays are considered the best which contri-

bute most to medical or scientific knowledge. After the dissertation has been stamped by the Dean in the name of the Faculty, the same must be printed, at the expense of the author, and at least 125 copies delivered to the Faculty.

When the candidate has satisfactorily fulfilled the above conditions, he must introduce his essay, and read it publicly in the Aula, and defend it against any objections that may be made.

Promotions *in absentia* cannot be made, except with the sole exception of a *promotio honoris causâ* for distinguished service to medical science.

The Medical Faculty of this University consists of the following *Ordinary Professors*: H. Stannius; T. Thierfelder, Special Pathology and Therapeutics; H. R. Aubert, Physiology; W. von Zehender, Ophthalmology; F. Schatz, Midwifery; F. S. Merkel, Anatomy; C. Gaetgens, Chemistry; F. Trendelenburg, Surgery; A. Thierfelder, Pathological Anatomy. In the Philosophical Faculty, lectures on subjects connected with medicine are delivered by—*Ordinary Professors*: O. Jacobsen, Chemistry; and H. Grenacher, Comparative Anatomy and Zoology.

UNIVERSITY OF STRASBURG.

THE following is an extract from the regulations of the University of Strasburg relative to Degrees in Medicine.

Any person desirous of obtaining the degree of Doctor of Medicine can only be admitted to graduation on fulfilling the following conditions. *a*. If he belong to the German empire, he must have completed an academical four years' course of study of Medicine, or of the Natural Sciences. By an unanimous decision of the Faculty, one or two Sessions may be omitted. Foreigners desirous of graduating are not required to have passed through the four years' course, if they produce proof of having received instruction equivalent to the course of study in the Medical Faculties of Germany. *b*. He must present a scientific essay (dissertation) composed by himself. *c*. He must undergo the Faculty examination. *d*. He must pay the prescribed fee of 240 *marks*.

In his application for graduation, which must be addressed to the Dean, the candidate must produce the evidence referred to in *a*, and forward a scientific memoir on some department of medicine, with a written assurance that it is absolutely his own composition. If the dissertation receive the approval of the Faculty, the candidate is admitted to examination.

The examination is conducted by the ordinary professors, and consists, as a rule, of an oral theoretical examination in all important departments of medicine. If the candidate fail to give satisfaction in the oral examinations, he must, in order to obtain the degree of doctor, again undergo the examination after a time to be determined by the Faculty, but he is not required to present a second dissertation.

In the case of candidates who have already passed the State examination, a colloquy before three members of the Faculty may, by the unanimous decision of the Faculty, be substituted for the oral examination.

Degrees in Medicine are not conferred on absent candidates.

If the dissertation be rejected, the candidate receives the whole fee back. If the dissertation be approved, but the candidate fail in the examination, 90 marks are returned to him, but, when he is again admitted to examination, only half that fee is required.

After the Faculty examination has taken place and the dissertation has been printed and published, the candidate is formally admitted to the degree of Doctor by the issuing of a printed diploma, the names of the successful candidates being announced.

The candidate has to bear the expense of printing the dissertation and of the diploma.

There is no public ceremony, and no oath is administered.

Matriculation takes place on the first four Wednesdays of the season, from twelve to one o'clock. After the end of these four weeks, the rector can allow matriculation only on special grounds. Any one desirous of matriculating as a student, and attending the lectures and other instructions given in the University, must, on his arrival in Strasburg, communicate with the Secretary of the University, in order to be inscribed. Other persons desirous of attending the lectures must obtain permission from the respective teachers, and must then at once communicate with the Secretary of the University.

The following are the professors and teachers of the University. *Ordinary Professors:* G. Waldeyer, Human Anatomy and Embryology; J. G. Jössel, Anatomy; F. L. Goltz, Physiology; F. Hoppe-Seyler, Physiological and Pathological Chemistry; O. Schmiedeberg, Pharmacology and Therapeutics; F. von Recklinghausen, Pathological Anatomy and Physiology, and Histology; A. Kussmaul, Medicine and Clinical Medicine; A. Lücke, Surgery and Clinical Surgery; Krieger, Forensic Medicine and Public Health; F. Wiegner, History of Medicine, Diseases of the Skin, and Syphilis; A. Aubenas, Obstetrics and Gynaecology; F. Jolly, Psychiatry. *Extraordinary Professors:* L. Laqueur, Diseases of the Eye; O. Kohts, Medicine and Diseases of Children. There are also six *doctents*. Instruction in subjects connected with Medical Science is also given in the Faculty of Mathematics and Natural Science by the following *Professors:* O. Schmidt, Comparative Anatomy; A. de Barry, Botany; F. A. Flückiger, Pharmacy and Pharmaceutical Chemistry; R. Fittig, Experimental Chemistry. *Extraordinary Professors:* F. Rose, Practical Chemistry; A. Goette, Zoology.

Connected with the University are institutions for the practical study of anatomy, experimental physiology, physiological chemistry, pathology, and pharmacology, and clinics for medicine, surgery, midwifery, mental diseases, diseases of the eye, and syphilis, and diseases of the skin.

UNIVERSITY OF TÜBINGEN.

THE Faculty of Medicine here grants a degree in Medicine under the following conditions.

1. The candidate must send in with his application—*a.* A *curriculum vitae*; *b.* A certificate of having gone through a thorough course of instruction at the Gymnasium or some equivalent institution; *c.* Proof of a sufficient study of medicine at an university, and certificates of having attended the lectures having reference to the subjects of examination.

2. The examination consists of a written and a subsequent verbal one. A legalised proof of having passed a satisfactory examination in medicine and surgery in a foreign country dispenses with the written examination, but not with the verbal one. In no case can a degree be granted *in absentia*.

3. In the written examination will be put one question in each of the following subjects: 1. Anatomy; 2. Physiology; 3. Materia Medica; 4. General Pathology and Therapeutics; 5. Two questions in Special Pathology and Therapeutics. In addition to which, if a Doctor's degree in Surgery be required, one question will be put on each of the following subjects: 1. General Surgery; 2. Special Surgery; 3. Surgical Operations; 4. Midwifery.

4. The fees amount to 300 marks, including the printing of the diploma, which fee must be paid on application. If the candidate be rejected at the written examination, and be not admitted to the verbal one, the whole of the fees will be returned. If he be rejected after the verbal one, only half will be returned.

5. The candidate must compose a dissertation under the presidency of a member of the Faculty, and get it printed; 250 copies are to be presented to the University. If, however, the essay be published either in a periodical or as a special pamphlet, 100 copies will suffice, but they must be provided with a special title-page. Only such candidates as have given numerous and satisfactory literary proofs of their capacity can be allowed to dispense with the composition.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors:* V. von Bruns, Surgery; K. von Vierordt, Physiology; O. Schüppel, Pathology; J. Säxinger, Midwifery; C. Liebermeister, Medicine and Materia Medica; T. Jürgensen, Medicine and Diseases of Children; A. Nagel, Ophthalmology; P. J. W. Henke, Anatomy. *Extraordinary Professors:* V. Oesterlen, Forensic Medicine and Hygiene; O. Leichtenstern, Medicine. Lectures are also given on subjects connected with Medicine in the Faculty of Natural Science by—*Ordinary Professors:* T. Eimer, Zoology; C. G. Hüfner, Chemistry; L. Meyer, Chemistry; and *Extraordinary Professors:*—Hegelmaier, Botany; and W. Städel, Chemistry.

A hospital and institution for practical instruction are connected with this University.

UNIVERSITY OF WÜRZBURG.

BEFORE being admitted to the examination for the Doctorate of Medicine, Surgery, and Midwifery, the candidate must pass the medical approbation examination, which consists in showing—by testimonials or certificates—that he has a good moral character, and that he has passed through four years' study at an University, six sessions of which must have been devoted to medical studies.

Upon fulfilment of these conditions, the candidate will be admitted to a written and *vivâ voce* examination, before which, however, he must pay to the Faculty 300 marks (15*l.*)

The written examination consists in the composition of a scientific work out of the sphere of theoretical or practical medicine, which dissertation must be handed to the Dean, who will give it to one of the examining professors to report on. Upon

the satisfactory or unsatisfactory decision of the reporter depends the admission to the *vivâ voce* examination. It is customary for the dissertation to be printed.

If the decision of the reporter with regard to the theme be unfavourable, then admission to the *vivâ voce* examination is denied, and another theme must be composed and handed in at a future time. Should the second theme, however, be deemed unsatisfactory, the candidate will not be allowed to reappear. He then receives back all his fees except 30 marks.

If the dissertation be approved by the Faculty, then the candidate is admitted to a *vivâ voce* examination, in the German language, which consists of the following subjects: Anatomy and Pathological Anatomy, Physiology, Pathology and Medicine, Special Therapeutics, Surgery, Obstetrics and Ophthalmology. A knowledge also of Psychology and State Medicine is required.

After taking the examination oath, the result and standing of the examination is imparted to the candidate by the Dean—whether very good, good, or moderate.

When the candidate is unsuccessful at the *vivâ voce* examination, he receives back half the fees, and is allowed to present himself for examination again in six months' time by paying half the fees again. Only one more attempt is, however, allowed after the first rejection at the *vivâ voce* examination.

After successful examination, the candidate will receive his diploma of doctor.

In this University, the Medical Faculty consists of the following professors, with several *doctents*. *Ordinary Professors*: F. von Reinecker, Syphilis and Diseases of the Skin, also Psychiatry and Psychiatric Clinic; A. von Kölliker, Human, Comparative, and Topographic Anatomy; F. W. Scanzoni von Lichtenfels, Midwifery; — Riedinger, Surgery and Clinical Surgery; A. Fick, Physiology; C. Gerhardt, Medicine and Clinical Medicine, and Diseases of Children; F. Rindfleisch, Pathological Anatomy, General Pathology, and History of Medicine; R. von Welz, Ophthalmic Surgery; A. Geigel, Clinical Medicine and Hygiene; M. Roszbach, *Materia Medica*. *Extraordinary Professors*: A. F. von Trölsch, Aural Surgery; W. Reubold, Forensic Medicine. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors*: J. Sachs, Botany; J. Wislicenus, Chemistry; K. Semper, Zoology; F. Kohlrausch, Experimental Physics.

MEDICAL DEGREES IN THE AUSTRO-HUNGARIAN EMPIRE.

THE Universities of the Austro-Hungarian Empire which possess Medical Faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbruck (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), Salzburg, and Vienna.

Candidates for the degree of Doctor of Medicine in the Universities of the Austrian Empire are required to undergo three examinations. Before being admitted, the candidate must produce (a) his certificate of birth or baptism, and evidence (b) of having received a sufficient preliminary education in one of the institutions of the countries comprised in the

empire, or, if he do not belong to any of these, evidence of having matriculated as an ordinary student in a Faculty of Medicine; (c) of having attended lectures in a medical school during at least four sessions, and of having dissected during two sessions; (d) of having passed, at one of the Universities of the empire, three examinations, in botany, zoology, and mineralogy. Before being admitted to the second examination, he must produce evidence of having been engaged five years in professional study, and of having studied clinical medicine and clinical surgery, each during four sessions, and clinical ophthalmology and clinical midwifery, each during at least one session; and of having passed the first examination.

The first examination embraces physics, chemistry, anatomy, and physiology. There is a practical examination on anatomy and physiology, and a theoretical examination on all four subjects.

The second examination includes general pathology and therapeutics, pathological anatomy and histology, pharmacology (pharmacodynamics, toxicology, and prescribing), and the pathology and therapeutics of internal diseases. The candidate is examined practically in pathological anatomy (with preparations and on the dead body), and in medicine (at the bedside); and theoretically in all the subjects.

The third examination embraces surgery, ophthalmic surgery, midwifery and diseases of women, and forensic medicine. The examinations in surgery, ophthalmic surgery, and midwifery, are practical; and there are theoretical examinations in all the subjects.

All these examinations must take place at the same University. In very exceptional circumstances only is a candidate allowed to pass the second or third examination at another University than that at which he has passed the first.

The examinations are public, and are conducted by a President, the regular examiners, the Government commissioner, and at the last there is a co-examiner appointed by the Government. Each member of the commission examines for a quarter of an hour.

The fee for the first examination is 55 florins, for the second 60 florins, and for the third 65 florins (Austrian). The promotion fees for the Doctorate amount to 60 Austrian florins. The total for the M.D. degree is about £23 of English money.

The examinations are conducted in German, except at Cracow and Lemberg, where they are in Polish.

UNIVERSITY OF VIENNA.

In this University, the Medical Faculty is constituted as follows. *Ordinary Professors*: C. A. Voigt, Anatomy; E. von Brücke, Physiology; F. von Arlt, Ophthalmic Surgery; J. von Dumreicher, Practical and Clinical Surgery; K. Langer, Descriptive and Topographic Anatomy; K. Braun von Fernwald, Midwifery, Clinical Midwifery and Gynæcology, etc.; H. von Bamberger, Special Medical Pathology, Therapeutics, and Clinical Medicine; R. L. Heschl, Pathological Anatomy; A. Duchek, Special Medical Pathology and Therapeutics, and Clinical Medicine; J. Späth, Theory and Practice of Midwifery; K. Stellwag von Carion, Ophthalmic Surgery; Th. Billroth, Practical and Clinical Surgery; G. Braun, Midwifery (for Midwives); F. R. Seligmann, History of Medicine; E. Hofmann,

Forensic Medicine; K. Sigmund von Llanor, Syphilology; K. Wedl, Histology; S. Stricker, Experimental and General Pathology; Th. Meynert, Psychiatry and Nervous Diseases; A. E. Vogl, Pharmacology and Pharmacognosy; E. Ludwig, Chemistry. *Extraordinary Professors:* E. Jäger von Jaxthal, Ophthalmic Surgery; J. Seegen, Balneology; C. Cessner, Use of Instruments and Bandages; H. Zeissl, Syphilology; M. F. Röhl, Contagious Diseases; L. Schlager, Psychiatry; F. Müller, Zootomy and Comparative Physiology; J. Clob, Pathological Anatomy; L. Dittel, Surgery; H. Widerhofer, Diseases of Children; M. Leidesdorf, Psychiatry; M. Schwanda, Medical Physics; M. Benedikt, Electro-Therapeutics; S. Stern, Elementary Clinical Instruction; A. Politzer, Aural Surgery; J. Greiber, Aural Surgery; J. Weinlechner, Surgery; G. Löbel, Clinical Medicine; S. L. Schenk, Embryology; A. Drasche, Epidemiology; K. von Schroft, Toxicology and Prescribing; A. von Mosetig-Moorhof, Operative Surgery; J. Nowak, Hygiene; K. Stoerk, Laryngoscopy and Diseases of the Larynx; L. von Schrötter, Laryngoscopy and Diseases of the Larynx; M. Kaposi, Diseases of the Skin and Syphilis; H. Auspitz, Diseases of the Skin and Syphilis; L. Neumann, Diseases of the Skin and Syphilis; F. Salzer, Operative Surgery; S. Exner, Physiology; M. Rosenthal, Diseases of the Nervous System; K. Mayrhofer, Midwifery and Gynaecology; G. Wertheim, Diseases of the Skin and Syphilis; L. Politzer, Diseases of Children; S. von Basch, Experimental Pathology. There are also between sixty and seventy private teachers. In the Philosophical Faculty, lectures on subjects connected with medicine are given by—*Ordinary Professors:* K. von Brühl, Zootomy; L. K. Schmarda, Zoology; K. Claus, Zoology and Comparative Anatomy; J. Miesner, Vegetable Anatomy and Physiology; A. Lieben, Chemistry; L. Barth von Barthenau, Chemistry. *Extraordinary Professors:* J. Böhm, Botany; H. W. Reichardt, Botany; E. Lippmann, Chemistry.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 3,000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, under Professors Von Dumreicher and Billroth; a clinic for Diseases of the Eye, under Professors Von Arlt and Stellwag von Carion; and three clinics for Obstetrics—two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for Midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Diseases of the Skin, under Professor Hebra; for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Professor Meynert; and for Otolaryngology, under Professor Gruber. A considerable portion of the school is also situated within the hospital; thus there are the Pathological Museum and *post mortem* room, under the direction of Professor Heschl; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the Practical Physiology is carried on under Professor Brücke; the Materia Medica

Museum, and the Medical Library are outside the hospital, in the Alsergrund.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the Professors of the Medical Faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student. The clinic for Diseases of the Skin, conducted by Professor Hebra, is much frequented by Americans, English, and other foreigners.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks, and the lecturer generally commences a new course a few days after the old one is finished. The numbers in attendance vary from half a dozen to thirty or forty, and sometimes even more. The courses for Diseases of the Throat and of the Ear are most frequented, and there are usually two or more courses on each of these subjects going on simultaneously. Among the other subjects taught in the same way are the use of the ophthalmoscope, operations on the eye, surgical operations on the dead body, auscultation and percussion, diseases of children, demonstrations of syphilis, demonstrations of skin-diseases, electro-therapeutics, etc. The courses are given for the most part by the private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors. For a six or eight weeks' course, the fee is usually from fifteen to twenty florins. The instruction in them is demonstrative or practical, involving the use of instruments and apparatus by the students themselves. Clinical instruction on children's diseases is given at the St. Anne's Hospital, in the immediate neighbourhood of the Krankenhaus, by Professor Widerhofer and Dr. Monti, and is greatly valued by foreign students. This and many other of the courses are often attended by students for a second or even third time. It will be readily understood that a student desirous of occupying his time to the best advantage at Vienna must be prepared to expend a considerable sum in fees.

Vienna affords great opportunities for the study of pathological anatomy. There are separate *post mortem* rooms for the cases from the clinical wards, medico-legal cases, and the ordinary cases. At the two former, the clinical professor or assistant is usually in attendance. The examinations go on all the morning, there being sometimes as many as a dozen in one day. The ordinary *post mortem* examinations are gone through with great rapidity by pathological assistants without any view to teaching, but the most interesting specimens of the day are reserved for demonstration at a class held in the afternoon by the first assistant. This class is composed of foreigners, and is well worth attending.

UNIVERSITY OF CRACOW.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors:* A. Bryk, Surgery; G. Piotrowsky, Physiology and Microscopy; L. Teichmann, Descriptive Anatomy; M. Madurowicz, Midwifery; S. Janikowski, Forensic Medicine; L. Rydel, Ophthalmology; A. Stopczanski, Medical Chemistry;

E. Korczynski, Medicine and Clinical Medicine. *Extraordinary Professors*: A. Rosner, Diseases of the Skin and Syphilis; J. Oettinger, History of Medicine; M. L. Jakubowski, Diseases of Children. Instruction in subjects connected with medicine is given in the Philosophical Faculty by—*Ordinary Professors*: L. Czerwiakowski, Botany; E. Czyrniński, General and Pharmaceutical Chemistry; M. S. Nowicki, Zoology. *Extraordinary Professors*: E. Janczewski, Vegetable Anatomy and Physiology; K. Olszewski, Chemistry.

UNIVERSITY OF GRATZ.

IN this University, the Medical Faculty consists of the following professors, with about 12 *docents*. *Ordinary Professors*: A. Schauenstein, State Medicine; J. von Planer, Descriptive and Topographical Anatomy; K. von Rzehaczek, Surgical Pathology and Therapeutics and Clinical Surgery; K. von Hetly, Midwifery and Gynaecology; A. Rollett, Physiology and Histology; K. Blodig, Ophthalmic Surgery; O. Rembold, Medicine; H. Kundrat, Pathological Anatomy. *Extraordinary Professors*: J. von Koch, Epidemic Diseases and Sanitary Police; V. von Ebner, Histology and Embryology; K. B. Hoffmann, Chemistry; R. von Krafft-Ebing, Psychiatry; E. Lipp, Diseases of the Skin; C. von Scroff, General Pathology and Therapeutics. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors*: H. Leitgeb, Botany; C. von Ettingshausen, Botany; L. von Pebal, Chemistry; F. E. Schulze, Zoology and Comparative Anatomy.

Connected with the University are anatomical, physiological, pathological, and zoological institutes; medical, surgical, ophthalmic, obstetric, and gynaecological clinics; a laboratory for physiological and pathological chemistry; a chemical laboratory, etc.

UNIVERSITY OF INNSBRUCK.

THE following professors belong to the Medical Faculty. *Ordinary Professors*: K. Dantscher, Descriptive Anatomy; L. Kleinwächter, Obstetrics and Gynaecology; A. Tschurtschenthaler, General Pathology, Pharmacognosy, and Pharmacology; M. von Vintschgau, Physiology; F. Schott, Pathological Anatomy; L. Mauthner, Ophthalmic Surgery; E. Albert, Surgery and Clinical Surgery; K. Senhofer, Medical Chemistry; M. Dieth, Experimental Pathology. *Extraordinary Professors*: F. Wildner, Veterinary Medicine; J. Oellacher, Histology and Embryology; E. Lang, Syphilology and Dermatology; P. von Rokitsky, Diseases of the Chest. In the Philosophical Faculty instruction in subjects connected with medicine is given by—*Ordinary Professors*: C. Heller, Zoology and Comparative Anatomy; and A. Kerner, Botany.

The ordinary laboratories, clinics, and other means of practical instruction, are possessed by this University.

UNIVERSITY OF PRAGUE.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors*: A. Jaksch von Wartenhorst, Medicine and Clinical Medicine; — Gussenbauer, Surgery and Clinical Surgery; J. Halla, Medicine and Clinical Medicine; J. Streng, Midwifery; S. Strupí, Veterinary Medicine; J. Hasner von Artha, Ophthalmology and Ophthalmic Clinic; — Knoll, Ge-

neral Pathology and Therapeutics; J. Maschka, State Medicine; E. Hering, Physiology; F. Weber von Ebenhof, Midwifery; C. H. Huppert, Medical Chemistry; E. Klebs, Pathological Anatomy; A. Breisky, Midwifery; C. Toldt, Anatomy and Histology. *Extraordinary Professors*: J. Lerch, Forensic, Physiological, and Pathological Chemistry; G. von Rittershain, Diseases of Children; Th. Eiselt, Clinical Medicine (in Bohemian); J. Kaulich, Diseases of Children; S. Mayer, Physiology; P. Knoll, Experimental Pathology; P. J. Pick, Skin Diseases; A. Ribram, Clinical Medicine; E. Zaufal, Aural Surgery; J. Fischel, Psychiatry; H. Eppinger, Pathological Anatomy; W. Weiss, Operative Surgery. In the Philosophical Faculty, lectures are delivered by—*Ordinary Professors*: F. Stein, Zoology; G. A. Weiss, Botany; E. Linnemann, Chemistry; M. Willkomm, Botany; A. Fric, Zoology (in Bohemian); L. Celakovsky, Botany (in Bohemian).

Connected with the University are an anatomical theatre; pathological, physiological, medico-chemical, and zoo-chemical institutes; medical, surgical, ophthalmic and dermatological clinics (one of the medical clinics being Bohemian); obstetric clinics for practitioners and for midwives, etc.

MEDICAL EDUCATION IN SWITZERLAND.

IN Switzerland, degrees in Medicine are granted in the Universities of Basle, Berne, Geneva, and Zürich.

UNIVERSITY OF BASLE.

THE degree of Doctor of Medicine, Surgery, and Midwifery, granted by this University, can only be obtained with the fulfilment of the following conditions.

1. Application for admission to the examination must be made to the Dean of the Faculty, in writing, enclosing: *a.* A "curriculum vitæ"; *b.* The academical matriculation of this place; *c.* Certificates of attendance at the academical lectures; *d.* A certificate of conduct from the High School in which the candidate has made his principal studies; *e.* A scientific treatise on any subject he chooses within the sphere of medical or natural science.

2. The examination is partly written (*tentamen*) and partly verbal (*rigorosum*).

3. The written examination consists in the answering of five questions having reference to Anatomy, Physiology, Pathological Anatomy and Pathological Physiology, Special Pathology and Therapeutics, and Surgery.

4. In case of rejection, the Faculty can appoint a time for a repetition of the examination, before which time the candidate cannot be re-examined.

5. The whole of the professors of the Faculty are invited to the verbal examination. The following are the subjects: Anatomy, Physiology, Pathological Anatomy and Physiology, Special Pathology and Therapeutics, Materia Medica, Surgery, Midwifery.

6. The examination by one examiner must not last longer than half an hour.

7. The degrees in which doctorships are granted are "Summâ cum laude", "Insigni cum laude", "Magnâ cum laude", "Cum laude", and "Rite".

8. In adjudicating on both the written and verbal examination, not only will the special knowledge in the respective branches be taken into consideration, but also the possession of a general scientific knowledge, and especially a comprehensive knowledge of Natural Science.

9. One hundred and twenty copies of the treatise must be delivered to the Faculty.

10. Promotions are not granted to applicants who have not passed the examinations here; but the Faculty can confer the degree of doctor on notable and eminent physicians *honoris causa*.

11. The fees for the examination amount to 350 francs, viz., 100 for the *tentatum*, 200 for the *rigorosum*, and 50 for the promotion.

12. If the candidate be rejected after either examination, he forfeits the fees. The re-examination is free of charge.

The following are professors in the Medical Faculty of this University. *Ordinary Professors*: F. Miescher, senior, Pathological Anatomy; L. Rüttimeyer, Comparative Anatomy and Zoology; A. Socin, Surgery and Clinical Surgery; H. Immermann, Medicine and Clinical Medicine; J. Kollmann, Anatomy; J. J. Bischoff, Obstetrics and Gynecology; F. Miescher, junior, Physiology and Physical Chemistry; M. Roth, General Pathology and Pathological Anatomy; L. Willie, Psychiatry; H. Schiess, Ophthalmology. *Extraordinary Professors*: I. Hoppe, Therapeutics; E. Hagenbach-Burckhardt, Diseases of Children; R. Massini, Polyclinic and Prescribing; L. De Wette, Forensic Medicine. There are also several private teachers. Lectures on subjects connected with Medicine are given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors*—J. Piccard, Chemistry; and H. Vochting, Botany.

Connected with the University are the town hospital, where clinics for medicine, surgery, diseases of the eye, mental diseases, and midwifery are conducted; a hospital for diseases of children, and institutions for practical instruction in physiology, pathology, chemistry, and botany.

UNIVERSITY OF BERNE.

THE Medical Faculty of this University is constituted of the following professors and about thirteen *doctents*. *Ordinary Professors*: G. Valentin, Physiology and Toxicology; C. Emmert, Public Medicine and Hygiene; C. Aebly, Human and Comparative Anatomy; T. Kocher, Surgery; T. Langhaus, Pathological Anatomy; Lichtheim, Medicine; P. Müller, Midwifery; A. Vogt, Hygiene. *Extraordinary Professors*: E. Schärer, Psychiatry; E. Pflüger, Ophthalmology; M. von Nencki, Physiological Chemistry. *Honorary Professors*: Dr. A. Valentin, *Materia Medica*; R. Demme, Diseases of Children; Erlach, Syphilis; Dubois, Diseases of the Ears and Throat; Löwe, Histology. Instruction in subjects connected with medicine is also given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors*—V. Schwarzenbach, Chemistry and Pharmacy; L. Fischer, Botany; *Extraordinary Professor*: T. Studer, Zoology.

Medical, surgical, obstetric, and special clinics, and physiological, pathological and chemical laboratories, etc., are connected with the University.

UNIVERSITY OF GENEVA.

THE University of Geneva grants the degrees of Bachelor in Medical Science and Doctor of Medicine.

The following classes of persons are admitted as students in the Faculty of Medicine: 1. Bachelors in Letters; 2. Bachelors in Science; 3. Students who have attended during two years lectures in the Section of Philosophy, and have undergone the examinations at the end of each year; 4. Pupils from the Classical Section of the Gymnasium, with certificates of Studies; 5. Swiss and strangers who give evidence of their studies by means of diplomas or certificates; 6. Persons who undergo satisfactory oral examinations in the subjects comprehended in the classical section of the Gymnasium. Persons who furnish evidence that they have studied abroad, for a year at least, in a corresponding faculty, may be inscribed in the Faculty of Medicine.

The course of study is as follows: *First Year: Winter Session*: Botany (first part); Physics (first part); Comparative Anatomy or Zoology; Inorganic Chemistry; Practical Comparative Anatomy. *Summer Session*: Botany (second part); Physics (second part); Comparative Anatomy or Zoology; Organic Chemistry (first part); Practical Chemistry; Botanical Excursions. *Second Year: Winter Session*: Descriptive Anatomy (first part); Physiology (first part); Organic Chemistry (second part); Dissections. *Summer Session*: Descriptive Anatomy (second part); Physiology (second part); Practical Chemistry and Practical Comparative Anatomy. (Students are recommended to attend, in addition, courses of other subjects, such as Astronomy, Geography, Physics, Mineralogy, Geology, etc.) *Third Year: Winter Session*: Descriptive Anatomy (third part); Normal Histology; Dissection. *Summer Session*: Regional Anatomy; Embryogeny; Supplementary courses on subjects of the preceding years, on which the student's knowledge is weak; Practical Physiology, Histology, Comparative Anatomy, and Chemistry. (The examination for Bachelor in Medical Sciences is now undergone). *Fourth Year: Winter Session*: General Pathology; Internal Pathology; External Pathology; Dissection of Regions; Medical and Surgical Hospital Practice. *Summer Session*: Special Pathological Anatomy; Pathological Histology; Internal Pathology; External Pathology; Pharmacology; Medical and Surgical Hospital Practice; Exercises in the Laboratory of Pathological Histology. *Fifth Year: Winter Session*: Therapeutics; Hygiene; Legal Medicine; Theory of Obstetrics; Internal Pathology; External Pathology and Operations; Medical and Surgical Hospital Practice. *Summer Session*: Therapeutics; Legal Medicine; Internal Pathology; External Pathology; Medical and Surgical Hospital Practice; Operations. *Sixth Year: Winter and Summer Sessions*: Medical, Surgical, and Obstetrical Hospital Practice; Polyclinic; Ophthalmology; Psychology, etc. Repetitions preparatory to the examination for the Doctorate.

Persons who have satisfied the conditions laid down regarding the admission of students to the Faculty of Medicine may become candidates for the degree of Bachelor in Medical Science. Students who have undergone the recognised annual examinations in the Faculty of Medicine or of Sciences are exempt from oral examinations in the subjects in which they have already been examined; provided that the examinations have been undergone not more

than two years previously. Persons who produce diplomas or certificates giving evidence of their studies may be exempted from further examinations in the subjects in which they have already passed.

The following may become candidates for the degree of Doctor of Medicine: 1. Bachelors in Medical Science; 2. Persons who produce diplomas or certificates indicating that they have gone through an equivalent course of study. There are five examinations for the degree of Doctor of Medicine. *First Examination:* Human Anatomy and Histology; Physiology; Pathological Anatomy and General Pathology; a Necropsy, for which one hour is allowed; making an Anatomical Preparation, for which four hours are allowed. *Second Examination:* Medicine; Surgery; Operative Surgery; three Operations, and Application of Bandages. *Third Examination:* Hygiene; Therapeutics; *Materia Medica* and Pharmacology; Legal Medicine; a Medico-Legal Report on a real or supposed case, for which one hour is allowed. *Fourth Examination:* Clinical Examination of two medical and two surgical patients and of one case of labour (fifteen minutes being allowed for each case); Obstetrics, with operations on the mannikin; Discussion on each Clinical Case; Written Commentary on a Medical and a Surgical Case, two hours being allowed. *Fifth Examination:* Defence of a printed Dissertation, in the French language, on a subject in medical science chosen by the candidate, and previously communicated to the Faculty.

The examinations are public. Those for the degree of Bachelor are held at the beginning and end of the University year, and in the interval between the sessions. Applications for admission must be made to the Dean of Faculty of Medicine eight days before the day of examination. The examinations for the degree of Doctor take place, on the demand of the candidates, at times determined by the Faculty.

Before being admitted to examination, each candidate pays to the beadle 40 francs; and after the last examination, 100 francs must be paid to the Faculty of Medicine. In case of unsatisfactory examination, half of the first fee is returned, and the second is not paid.

The following courses of lectures are delivered. *Winter Session:* Normal Anatomy, Professor Laszkowski; Physiology, Professor Schiff; Histology, General Pathological Anatomy and Physiology, and Necropsies, Professor Zahn; Clinical Medicine, Professor Revelliod; Clinical Surgery, Professor Julliard; Clinical and Theoretical Midwifery, Professor A. Vaucher; Polyclinic, Professor Vulliet; Internal Pathology, Professor D'Espine; External Pathology and Operative Surgery, Professor Reverdin; Therapeutics, Professor Prevost; Hygiene, Professor Dunant; Pharmacology, Professor Brun; Psychiatry, Dr. Olivet. The following are free courses: Gynecology, Dr. Gautier, Dr. Devrient, and Dr. Cordès; General Pathology, Dr. Durante; Ophthalmology, Dr. Barde and Dr. Haltenhoff; Accouchements, Dr. Odier; Balneotherapy, Dr. Glatz; Functions of Central Nervous System, Dr. C. Geib; Dental Medicine and Surgery, Dr. Guillot. *Summer Session:* The same subjects are taught (other departments being taken) as in winter, except Histology, General Pathology, Pharmacology, and Balneotherapy, and the following are given in addition: Special Pathological Anatomy, Professor Zahn; Legal Medicine, Professor Gosse; Pathology of the Urinary Organs, Dr. E. Martin; Otology, Dr. Colladen.

UNIVERSITY OF ZURICH.

THE following are the regulations for the degree of Doctor of Medicine.

1. In order to obtain the degree of Doctor of Medicine, the candidate must send to the Dean a written memorial, accompanied by (a) evidence of attendance on lectures of Physics, Chemistry, Botany, Zoology, and Medical Subjects; (b) a dissertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

2. The dissertation is delivered by the Dean for examination to the teacher of the subject of which it treats, or to the member of the Faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case, his name appears on the title when it is printed. If the first opinion be doubtful or unfavourable, the thesis must be circulated among all the members of the Faculty, and is only accepted if two-thirds of them give their written votes in its favour.

3. When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot, one on Anatomy and Physiology, the other on Pathology and Therapeutics, Surgery, or Midwifery. The answers are circulated among the members of the Faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also General Anatomy, Pathological Anatomy, *Materia Medica*, and Ophthalmic Medicine. The votes of two-thirds of the members of the Faculty present is necessary for the passing of this examination.

4. After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate; all other ceremonies are dispensed with.

5. The fee consists of 350 francs (14*l.*) and 15 francs to the bedell; it is paid before the oral examination (if this be remitted, before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of 100 francs is remitted to candidates who already possess a recognised diploma; and, in such cases, the Faculty may, by a majority of two-thirds, agree to omit the oral examination.

6. The Faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The Medical Faculty consists of the following Professors, with several docents: *Ordinary Professors*—H. Meyer, Human Anatomy; H. Frey, Comparative Anatomy, Zoology, Histology, Embryology; Rose, Surgery and Clinical Surgery; Herrmann, Physiology; K. J. Eberth, Morbid Anatomy; Huguenin, Practice and Clinics of Medicine; Horner, Ophthalmology; Wyss, Diseases of Children; Frankenhäuser, Obstetrics and Gynecology; Foret, Mental Diseases. *Privat Docents*—Goll, *Materia Medica*; Meyer, Laryngology; Seitz, Syphilis. Lectures are given in the Philosophical Faculty by *Ordinary Professors*—Merz, Chemistry; Weith, Chemistry; Dodel, Botany; Hoffmann, Physics. A Hospital, Lying-in Hospital, Children's

Hospital, Pathological, Physiological, and Chemical Laboratories, are connected with the University.

MEDICAL EDUCATION IN THE SCANDINAVIAN KINGDOMS.

MEDICAL EDUCATION IN DENMARK.

IN Copenhagen, instruction in all departments of medicine, except clinical instruction and *post mortem* examinations, is carried on in the buildings which formerly constituted the Academy of Surgery. Here are the anatomical institution; collections of normal and pathological anatomy, and of surgical instruments; a psychological laboratory and museum; and a collection of *materia medica*: with rooms for the delivery of all lectures (except clinical).

Besides the lectures, practical instruction is given in dissections, in normal and pathological histology, in the application of chemistry to medicine, and in operative surgery. Instruction in the making of necropsies is given in the *post mortem* room of King Frederick's Hospital. A pathological laboratory is a desideratum.

Clinical lectures and demonstrations are given at King Frederick's Hospital, and in midwifery at the Communal Hospital. At the former there are two medical and two surgical wards. One medical and one surgical ward are specially appropriated to clinical instruction, under the care of teachers resident in the hospital; the other two wards are also to be used for clinical instruction, and three senior medical officers, if not already professors or lecturers in the Faculty of Medicine, are ranked as "provisional teachers" in the Faculty during their six years' tenure of office.

Clinical instruction in midwifery and the diseases of infants is given in the Royal Lying-in and Nursing Institution by the professor of the subject, who is also principal accoucheur.

The Communal Hospital, which is under the direction of the city authorities and the ministry of the interior, is connected with the Faculty of Medicine for the purposes of clinical instruction in syphilitic and cutaneous diseases, and in psychological medicine (until an asylum is established); also in clinical surgery, until the new surgical wards in the King Frederick's Hospital are opened.

The instruction in the Faculty of Medicine is given free of charge to the students, the professors receiving salaries rising from 1,600 to 3,000 rixdollars *per annum*. Private teaching is not, therefore, a very profitable occupation, except in subjects such as ophthalmology, for which no provision is made in the University.

The academical year is divided into two sessions: the first extending from February 1 to June 9, and the second from August 23 to December 22. Examinations are held in January and June. The examination for the degree in Medicine is divided into two parts.

MEDICAL EDUCATION IN SWEDEN.

THERE are three medical schools in Sweden: viz., in the Universities of Upsala and Lund, and the Karolina Medico-Chirurgical Institute in Stockholm. In the last-named school, there are professorships of anatomy, physiology, medical chemistry and phar-

macy, pharmacology and pharmacodynamics, pathological anatomy, medicine, surgery, obstetrics and diseases of children, and extraordinary professorships of forensic and state medicine, syphilidology, and psychological medicine. The institution of a professorship of hygiene is contemplated. In Upsala the professorships are anatomy, physiology, experimental physiology and medical physics, medical chemistry and pharmacy, pathological anatomy, medicine, surgery, and an extraordinary professorship of psychological medicine. Obstetric medicine is taught by the professor of surgery, and state medicine by the professor of anatomy. In Lund the professorships are anatomy, medical chemistry and pharmacy, pathological anatomy, medicine, and surgery. Physiology is taught by the professor of anatomy; *materia medica* by the professor of chemistry; obstetric medicine by the professor of surgery; and forensic and state medicine by the professor of pathological anatomy.

Besides the professors there are teachers or docents. Of these, the Karolina Institute possesses four, Upsala three, and Lund one. Amanuenses are also attached to most of the professorships; the clinical amanuenses must be licentiates in medicine, while the remainder may be candidates in medicine who have passed through the full course of clinical instruction.

The three institutions possess museums of normal and pathological anatomy, collections of chemical and pharmaceutical preparations and drugs, of surgical and obstetric instruments, etc. In the Karolina Institute there is a library containing works on all the branches of medicine, the librarian of which delivers lectures on medical history free of charge.

In the anatomical department there are museums of normal and comparative anatomy. In Upsala and Lund, these museums are contained in buildings erected at a comparatively recent date as *salles d'anatomie*. In Stockholm the anatomical museum occupies a separate building on the same ground with the other buildings of the institute. In Upsala a histological institution, and in Lund one of pathological anatomy, are comprised in the anatomical department.

The Karolina Institute and the University of Upsala possess separate laboratories for medical chemistry. In Lund there is no special institution of the kind; but there is generally accommodation for medical students in the chemical laboratory.

Stockholm and Upsala possess pathological institutions in which necropsies of patients who have died in the neighbouring clinics are made; they contain also the museums of pathological anatomy; and in connection with that at the Karolina Institute is a department of forensic medicine with a mortuary or *morgue*. In Lund the necropsies are made in the *post mortem* room at the Hospital.

There is a Physiological Institution at Upsala, in the same building with pathological anatomy. In Stockholm a spacious room in the museum buildings has been appropriated to physiology.

Upsala possesses a hospital of 150 beds, which is entirely at the disposal of the University for the purpose of clinical teaching. The professors of medicine and surgery are *ex officio* medical officers of the hospital. There are also an assistant-physician and an assistant-surgeon, with a medical and a surgical amanuensis or clerk. Of the 150 beds, 100 or a few more are generally occupied, and are divided among medical, surgical, syphilitic and obstetric cases. There are generally about 50 each of medical and

surgical cases, 10 to 15 syphilitic, while the obstetric beds, 8 in number, contain usually from 2 to 6 patients. The assistant-physician and surgeon have each separate wards. The out-patient department is at present under the charge of one of the University teachers, who is also the town medical officer, and is utilised for the purpose of clinical instruction. There is also a clinical ward in the asylum at Upsala, in charge of the professor of psychological medicine.

In Lund, clinical instruction is given in the State Hospital, and also in the University Hospital. In the latter, there are 80 beds for medical and 80 for surgical cases, with 67 beds in the syphilitic and 8 in the obstetric departments. Of these, 40 beds in the medical and 40 in the surgical department are appropriated to clinical instruction, which is given by the professors of medicine and surgery. The obstetric department is also clinical; the syphilitic at present is not. Clinical instruction in the diseases of the eye is also given.

In Stockholm, the pupils of the Karolina Institution receive clinical instruction at the Seraphim Hospital, the Children's and Lying-in Hospitals, the Town and State Lock Hospital, and the Lunatic Asylum at Konradsberg.

At the Seraphim Hospital, there are two medical and two surgical wards, under the charge of the ordinary and adjunct professors of medicine and surgery; and also a small gynæcological ward, attended by the professor of obstetrics and gynæcology. It contains about 300 beds. An Ophthalmic clinic is comprised in the surgical department; and the gynæcological clinic (of eight beds) is attached to the medical. There are a resident medical and resident surgical officer, who receive salaries.

The Lying-in Hospital or Obstetric Clinic, can accommodate thirty patients; twenty beds are generally occupied. The professor of obstetrics in the Karolina Institution is *ex officio* chief physician, and takes charge of the wards for eight months in the year, being replaced by the adjunct professor for the remaining four months.

The whole of the cases in the General Orphan Hospital are available for clinical instruction. The daily number of infants under one year old in the institution, is from 100 to 110; sometimes it has been as high as 240. Of these 10 or 12 per cent. are generally on the sick-list. There are also about 80 children between one and fifteen years of age. The number of patients between these ages is about 30 daily; this apparently large proportion is explained by the fact that sick children are taken in from Stockholm and the neighbourhood. In addition, from 1,600 to 2,000 are attended yearly as out-patients. Clinical instruction is given by the professor of diseases of children for eight months in the year, and four months by his adjunct.

The Town and State Lock Hospital has 180 beds, of which, on an average, 140 are occupied daily.

The Hospital for the Insane at Konradsberg has 220 beds, which are all available for clinical instruction. The professor of psychological medicine in the Karolina Institute is the chief physician.

MEDICAL EDUCATION IN NORWAY.

In the University of Christiania, lectures are delivered on the following subjects: surgery, ophthalmic surgery, physiology, midwifery and diseases of women and children, descriptive anatomy, forensic

medicine, pathology and therapeutics, hygiene, materia medica, general pathology and pathological anatomy, surgical pathology, zoology, and chemistry. Clinical instruction is given in the General Hospital on surgery, ophthalmic surgery, medicine, diseases of the skin and syphilis; at the Lying-in and Children's Hospital, on the diseases of women and children; at the Gansted Asylum and at the Christiania Lunatic Asylum, on mental diseases; and in the Town Hospital, on chronic diseases. Practical instruction is also given in chemistry, anatomy, and botany.

In the General Hospital and in the Lying-in Hospital, the rule is that the students act as clerks for two years; viz., as assistant-clerks for three months in the medical wards, and the same in the surgical wards; then as senior clerks for three months in the wards for skin-diseases, six months in the medical and six in the surgical wards, and two or three months in the Lying-in Institution and Children's Hospital.

MEDICAL DEGREES IN BELGIUM.

DEGREES in Medicine are granted by the Universities of Brussels, Liège, and Louvain.

UNIVERSITY OF BRUSSELS.

By the regulations of the University of Brussels, British and other medical practitioners, provided with proper qualifications, are admitted to examination before the Faculty for the degree of M.D. Residence is not required from such as are unable to absent themselves long by reason of their professional occupations.

No degrees, however, are granted *in absentia*, and candidates must come over in person and have their names inscribed in the books of the University. The fees are, for inscription of name, 215 fr. (8*l.* 12*s.*); for examinations, 320 fr. (12*l.* 16*s.*); for registration of diploma, 10 fr. (8*s.*); total, 540 fr. (21*l.* 12*s.*) The examination consists of three parts: 1. General Therapeutics, including Pharmacodynamics (proportions of doses), Special Pathology and Therapeutics of Internal Diseases, General Pathology, and Pathological Anatomy. 2. Surgical Pathology, Ophthalmology, Theory of Midwifery, Public and Private Hygiene, Medical Jurisprudence. 3. Examination at the Hospital of one or two patients under Medical and Surgical Treatment; Examination in Midwifery, consisting in Obstetrical Operations on the *mannequin* (model of pelvis); Examination in Operative Surgery, consisting of some of the usual operations on the dead subject, such as amputation, ligature of an artery, etc.

Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science.

Examinations take place on the first Tuesday in November, December, February, May, and June. They are *visu voce* and written, but candidates may be exempted from the former and confine themselves to the written tests by paying an additional fee of 1*l.* for each test. Candidates must exhibit their qualifications or diplomas.

The three examinations may be got through in a week, allowing a day's interval between each two tests. Saturday is the most eligible day for arriving, for candidates for whom time is an object. The

delay of a week is, however, never exceeded by more than a day or two.

The examinations are conducted in English through the medium of an interpreter, for such candidates as are not familiar with the French language.

The degrees granted by the faculty are merely scientific titles, and do not confer the right to practise medicine in Belgium.

UNIVERSITY OF LIÈGE.

THE University grants a degree in Medicine, Surgery, and Midwifery, which can only be obtained after passing three examinations, in the French language, in natural sciences and medical subjects.

The first examination includes the following subjects: General Chemistry, Logic, Psychology, Moral Philosophy, Experimental Physics, Elements of Zoology, Elements of Botany (comprising the medical category), Elementary Geology and Mineralogy. This is called the examination for candidates in natural sciences.

The second examination, which is for candidates in medicine, includes Elements of Comparative Anatomy, Descriptive and Regional Anatomy, Human Physiology, and Pharmacology.

The third examination, which, when successfully passed, entitles the candidate to the Doctorate, includes the following subjects, viz., General Pathology, Pathological Anatomy, Special Pathology and Therapeutics, Mental Maladies, General Therapeutics, Surgical Pathology and Ophthalmology, Theory and Practice of Midwifery (including operations), Public Hygiene, Legal Medicine, Clinical Medicine, Clinical Surgery, Surgical Operations.

The fees are—for the first examination, 80 fr.; second, 40 fr.; doctor in medicine, 240 fr.; total, 360 fr.

UNIVERSITY OF LOUVAIN.

THIS University, before granting the usual degree, insists upon compliance with the following conditions, viz.:

1. An examination in one group (or branch) of the sciences;

2. An examination upon all medical subjects, in the French language.

The sciences are divided into three groups—Mathematics, Physico-chemicals, and Natural Sciences.

Each examination in any of the sciences is divided into three, viz.: that for the candidate, that for the license, and that for the doctorate.

The University of Louvain consists of several colleges, and the buildings of the Halles, and contains a library of 70,000 volumes.

MEDICAL DEGREES IN ITALY.

THE Italian universities at which degrees in medicine are granted are, Bologna, Catania, Padua, Palermo, Pavia, Pisa, Rome, Siena, and Turin. There is also a preparatory School of Medicine at Ferrara.

The regulations for Graduation in Medicine in the Universities of Italy are as follows:

1. The Medico-Chirurgical Faculty has the duty of giving instruction in all subjects relating to medi-

cine and surgery, promoting the cultivation of all that is known in that field, and qualifying for the exercise of the medical profession in its various branches. 2. The course of medical and surgical study extends over six years, at the end of which free license to practise is granted. 3. The following courses of instruction are obligatory: General Chemistry, Organic and Inorganic; Botany; Zoology, with Comparative Anatomy and Physiology; Experimental Physics; Normal Human Anatomy; (*i.e.*, Histology, Descriptive and Topographic Anatomy, and Dissection); Human Physiology; General Pathology; Pathological Anatomy (demonstrations and exercises); *Materia Medica* and Experimental Pharmacology; Special Medical Pathology (or Principles and Practice of Medicine); Special Surgical Pathology (Surgery); Clinical Medicine and Exercises in Semeiotics; Clinical and Operative Surgery; Theory and Practice of Ophthalmic Surgery; Theory and Practice of Diseases of the Skin and Syphilis; Midwifery and Clinical Midwifery; Forensic Medicine and Public Hygiene; Theoretical and Clinical Psychiatry (where opportunities exist). 4. The obligatory courses must each be attended one year; except Pathological Anatomy, of which two years are required, and Human Anatomy and Clinical Medicine and Surgery, each three years. 5. The following courses are non-obligatory or complementary; Medical Chemistry; Experimental Toxicology; Critical History of Medicine. 6. Besides these, other free courses may also be given. 7. There shall be three biennial examinations in the Faculty of Medicine; the first for "promotion"; the second for "licence"; the third for the degree of "laureate", with a diploma conferring full licence to practise. 8. In the Universities of Pisa and Siena the licentiate shall have the title of laureate of the first stage (*laurea di primo grado*). 9. In order to be admitted to the first examination (*promozione*) the candidate must have been a student at the University at least two years, and have diligently attended the Courses of Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, Experimental Physics, Human Anatomy, and any subjects of instruction that he may choose, so as to make up eighteen hours of instruction per week. 10. The subjects of examination shall be Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, and Experimental Physics. The Examining Board shall consist of the official teachers of the subjects of examination, with one or two additional examiners not belonging to the teaching body. On the proposal of the Faculty, and with the consent of the Minister, the examination for promotion may be divided into two parts, one to be held at the end of the first year, and the other at the end of the second year. At the beginning of each scholastic year, the Faculty shall determine what courses are to be followed and when. 11. The candidate for admission to the several examinations (licence) must have passed the first examination, have attended the University during two other years, and have diligently attended courses of Human Anatomy and Physiology, General Pathology, Practical Pathological Anatomy, *Materia Medica* and Experimental Pharmacology, Special Medical Pathology, Special Surgical Pathology, Clinical Medicine, and Clinical Surgery. The Examining Board shall be composed of the official teachers of the subjects mentioned, with one or two assessors not belonging to the teaching body. The examination shall be oral, and practical as regards Human Anatomy and *Materia Medica*. 13. A can-

didate for admission to the third examination (*laurea*) must have passed the second examination, have subsequently been a student at the University during two years, and have diligently attended the courses of Clinical Dermatology and Syphilology, Clinical Ophthalmic Surgery, Midwifery and Clinical Midwifery, Clinical Psychiatry, Exercises in Pathological Anatomy, Clinical Medicine and Surgery, Operative Surgery, Forensic Medicine and Hygiene, and voluntary courses so as to make up eighteen hours of instruction each week. 14. The candidate has to undergo an examination on the dead body and two clinical examinations. 15. The examination on the dead body shall be conducted by a sub-committee consisting of all the professors of Operative Surgery, Pathological Anatomy, and Forensic Medicine, with one or two assessors not belonging to the official teaching body. 16. In this examination, the candidate will perform on the dead body a surgical operation, the nature of which will be decided by lot from a series prepared by the sub-committee. He will also perform a necropsy, and draw up a description of the appearances seen. Finally, he will answer the questions put to him by the examiners, and especially on the results of the necropsy, which are asked by the professor of forensic medicine. 17. The first clinical examination will be conducted in the presence of a sub-committee consisting of the professors of Clinical Dermatology and Syphilology, Clinical Obstetrics, Clinical Psychiatry, Clinical Ophthalmology, and Forensic Medicine, with one or two extra-professorial assessors. 18. In this examination the candidate will examine four cases of disease selected from the four special classes, which have not previously been examined or treated in the clinical wards, and will give his opinion on the diagnosis, prognosis, and treatment. He will afterwards answer the questions and observations of the examiners, and especially will reply to the questions put by the professor of Forensic Medicine on the obstetric and psychological cases. 19. The several clinical examinations shall be conducted in the presence of a subcommittee, consisting of the Professors of Clinical Medicine, Clinical Surgery, Medicine, Surgery, and Forensic Medicine, with one or two extra-professorial assessors. 20. The candidate shall examine, in the presence of the subcommittee, four patients, two medical and two surgical, who have not yet been examined or treated in the wards, and shall write a description of the cases. He shall, finally, answer the questions asked by the examiners. 21. A student must have passed each stage of the third examination before he can be admitted to the next stage. 22. In each examination, a student rejected in one subject alone may present himself for examination in this subject only on a future occasion; but if he be rejected in two or more subjects, the whole examination must be repeated. 23. The three stages of the third examination having been passed, the three subcommittees unite to form a committee, presided over by the President of the Faculty, and will judge of the merits of the candidates. The successful candidates will be declared doctors in medicine and surgery, and the president will refer them to the Rector, in order that they may receive the diploma of laureate.

Foreigners desirous of obtaining medical degrees in Italian Universities must produce a diploma or degree obtained at some noted foreign university, and must at the same time produce satisfactory proof that they have actually gone through all the studies and passed the examinations required for that de-

gree. They must also pass the ordinary examinations for the medical degree and pay the respective fees. The examinations are usually conducted in the Italian or the Latin language.

MEDICAL EDUCATION IN PORTUGAL.

THERE are two medical schools in Portugal, at Lisbon and at Oporto, and a Medical Faculty at Coimbra.

The following are the regulations for obtaining a medical degree.

1. The student must have passed, at the end of each year, an examination on the subjects taught during the same, and present satisfactory certificates of all the examinations.

2. Before passing his final examination, he must present to the Faculty a printed dissertation. If it is approved by the Faculty, he is admitted to the oral examination.

3. A foreigner who wished to obtain the permission to practise in Portugal would have to present : *a.* A certificate of having passed an examination in arts, signed by the respective consuls or ambassadors of his country; *b.* A medical diploma from a Government University or medical school; *c.* He must pass an examination in all the branches of medicine; *d.* He must present a printed dissertation to the Faculty, and defend it.

The course of studies is extended over five years. There is one principal professor (*Cathedraticus*) for each chair, besides two supplementary professors for medicine, two for surgery, a demonstrator of anatomy, and a demonstrator of pathological anatomy.

The professors receive a fixed salary from the State. The principal professors have 700,000 reis (£155 10s.) a year; the supplementary professors have 400,000 reis (or £89) per annum, and the demonstrators 300,000 reis (£66 10s.)

MEDICAL EDUCATION IN THE UNITED STATES.

THE United States possess a very large number of institutions empowered by charter to grant the degree of doctor of medicine; there being, in some instances, special colleges and schools of medicine and surgery, and in others the medical departments of Universities. We are indebted to an interesting article on Literature and Institutions, by Dr. J. S. Billings, of the United States Army, published as a part of the *Century of American Medicine*, for a carefully prepared list of the medical schools. In reproducing it, we omit a number of institutions—twenty-five in all—which have ceased to grant medical degrees. The dates indicate the years in which the degrees in medicine were first conferred by the respective bodies.

Alabama.—Medical College of Alabama (Mobile): 1860.

California.—Medical College of the Pacific University (City) College (San Francisco): 1859.—University of California (San Francisco): 1865.

Connecticut.—Medical Department of Yale College (New Haven): 1814.

District of Columbia.—National Medical College, Medical Department of Columbian University (Washington): 1826.—Georgetown University (Washington): 1852.—Howard University (Washington): 1871.

Georgia.—Medical College of Georgia (Augusta): 1833.—Savannah Medical College: 1854.—Atlantic Medical College: 1855.

Illinois.—Rush Medical College, Medical Department of University of Chicago: 1844.—Chicago Medical College, Medical Department of Northwestern University: 1860.

Indiana.—Medical College of Evansville: 1850.—Indiana Medical College (Indianapolis): 1870.—Indiana College of Physicians and Surgeons (Indianapolis): 1875.

Iowa.—College of Physicians and Surgeons (Keokuk): 1850.—Iowa State University (Iowa City): 1871.

Kentucky.—University of Louisville: 1838.—Kentucky School of Medicine (Louisville): 1851.—Louisville Medical College: 1870.—Hospital College of Medicine, Medical Department of Central University (Louisville): 1875.

Louisiana.—University of Louisiana (New Orleans): 1835.—Charity Hospital Medical College of New Orleans: 1876.

Maine.—Bowdoin College and Medical School of Maine: 1821.

Maryland.—University of Maryland (Baltimore): 1811.—Washington University School of Medicine (Baltimore): 1828.—College of Physicians and Surgeons (Baltimore): 1873.

Massachusetts.—Harvard University (Boston): 1785.

Michigan.—University of Michigan (Ann Arbor): 1851.—Detroit Medical College: 1869.

Missouri.—Missouri Medical College (St. Louis): 1841.—St. Louis Medical College: 1843.—Kansas City College of Physicians and Surgeons: 1870.

New Hampshire.—Medical School of Dartmouth College (Hanover): 1798.

New York.—College of Physicians and Surgeons of the City of New York: 1769.—Albany Medical College: 1839.—University of the City of New York: 1842.—University of Buffalo: 1847.—Long Island College Hospital (Brooklyn): 1860.—Bellevue Hospital Medical College (New York): 1862.—College of Medicine of Syracuse University: 1873.

Ohio.—Medical College of Ohio (Cincinnati): 1821.—Starling Medical College (Columbus): 1836.—Cleveland Medical College: 1844.—Cincinnati College of Medicine and Surgery: 1852.—Miami Medical College (Cincinnati): 1853.—University of Wooster (Cleveland): 1865.

Oregon.—Williamette University (Salem): 1867.

Pennsylvania.—University of Pennsylvania (Philadelphia): 1768.—Jefferson Medical College (Philadelphia): 1826.

South Carolina.—Medical School of the State of South Carolina (Charleston): 1825.—University of South Carolina (Columbia): 1868.

Tennessee.—University of Nashville: 1852.—Vanderbilt University (Nashville): 1875.

Texas.—Galveston Medical College: 1866.—Texas Medical College and Hospital (Galveston): 1874.

Vermont.—University of Vermont and State Agricultural College (Burlington): 1823.

Virginia.—University of Virginia (Charlottes-

ville): 1828.—Medical College of Virginia (Richmond): 1839.

HARVARD UNIVERSITY, BOSTON.

THE following is the staff of professors in the medical department of this University: Dr. Calvin Ellis (Clinical Medicine), Dean; Dr. R. Fitz (Pathological Anatomy); Dr. Oliver W. Holmes (Anatomy); Dr. Henry J. Bigelow (Surgery); Dr. John P. Reynolds (Obstetrics); Dr. Francis Minot (Theory and Practice of Medicine); Dr. Henry W. Williams (Ophthalmology); Dr. David W. Cheever (Clinical Surgery); Dr. James C. White (Dermatology); Dr. Robert T. Edes (Materia Medica); Dr. Henry P. Bowditch (Physiology); Dr. Edward S. Wood (Chemistry); Dr. Cutler (Pathological Anatomy—Assistant). The following are Instructors. Dr. Charles B. Porter (Surgery); Dr. F. I. Knight (Percussion, Auscultation, and Laryngoscopy); Dr. J. Collins Warren (Surgery); Dr. Wm. L. Richardson (Obstetrics); Dr. Thomas Dwight (Histology); Dr. W. H. Baker (Gynæcology); Dr. W. B. Hills (Chemistry); Dr. G. H. F. Markoe (Materia Medica). Dr. H. H. A. Beach is Assistant Demonstrator of Anatomy; Dr. F. W. Draper lectures on Forensic Medicine, Dr. C. F. Polson on Hygiene. Special Clinical Instruction is given—in Syphilis, by Drs. F. B. Greenough and E. Wigglesworth; in Otolaryngology, by Drs. J. O. Green and C. J. Blake; in Diseases of Children, by Drs. J. P. Oliver and T. M. Potch; and in Diseases of the Nervous System, by Drs. S. G. Webber and J. J. Putnam.

Persons who hold no degree in arts or science must pass an *examination for admission* to this School, in Latin, in the elements of Physics, and in English. French or German will be accepted instead of Latin.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. The year is divided into two equal terms, either of which is more than equivalent to the former "Winter Session" as regards the amount and character of the instruction. The course of instruction extends over three years, and has been so arranged as to carry the student progressively and systematically from one subject to another. In the subjects of Anatomy, Histology, Chemistry, and Pathological Anatomy, laboratory work is largely substituted for, or added to, the usual methods of instruction.

Instead of an examination at the end of three years' period of study, a series of written examinations on all the main subjects of medical instruction has been distributed through the whole three years; and every candidate for the degree of Doctor of Medicine must pass a satisfactory examination in every one of the principal departments of medical instruction during his period of study.

The course of study is arranged as follows:—*First Year*: Anatomy, Physiology, and General Chemistry. *Second Year*: Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery. *Third Year*: Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery. Students are divided into three classes, according to their time of study and proficiency. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the second or third year's class must pass an examination in

he branches already pursued by the class to which they seek admission. Examinations are held in the following order:—End of first year—Anatomy, Physiology, and General Chemistry; end of second year—Medical Chemistry, *Materia Medica*, and Pathological Anatomy; end of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

Every candidate for a degree in medicine must be twenty-one years of age, must have studied medicine three full years, have spent at least one continuous year at this School, have passed the required examinations, and have presented a thesis.

Course for Graduates.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises the following branches: Histology, Physiology; Medical Chemistry; Pathological Anatomy; Surgery; Auscultation, Percussion, and Laryngoscopy; Ophthalmology; Dermatology; Syphilis; Psychological Medicine; Otology; Electrotherapeutics; Gynæcology; and Obstetrics. Single branches may be pursued. Graduates of other Medical Schools who may desire to obtain the degree of M.D. in the University, will be admitted to examination for the degree after a year's study in the Graduates' course.

Fees.—The fees are: for Matriculation, 5 dollars; for the year, 200 dollars; for one term alone, 120 dollars; for Graduation, 30 dollars. For Graduates' course, the fee for one year is 200 dollars; for one term, 123 dollars; and, for single courses, special fees. Payment is made in advance.

UNIVERSITY OF THE CITY OF NEW YORK.

THE Professors in the Faculty of Medicine are: Dr. Alfred C. Post (*Emeritus* Professor of Clinical Surgery, and President); Dr. Charles I. Pardee (Diseases of the Ear—Dean); Dr. John C. Draper (Chemistry); Dr. Alfred L. Loomis (Pathology and Practice of Medicine); Dr. W. Darling (Anatomy); Dr. W. H. Thomson (*Materia Medica* and Therapeutics); Dr. J. W. S. Arnold (Physiology and Histology); Dr. John T. Darby (*Emeritus* Professor of Surgery); Dr. J. Williston Wright (Surgery); Dr. Fanueil D. Weisse (Practical and Surgical Anatomy); Dr. Joseph W. Winter is Demonstrator of Anatomy; Dr. Polk (Obstetrics, and Diseases of Women and Children); Dr. Stimson (Pathological Anatomy); Dr. Ranney (Adjunct Professor of Anatomy).

A Post-Graduate Course of Lectures is delivered by the following Professors: Dr. D. B. St. John Roosa (Ophthalmology); Dr. Wm. A. Hammond (Diseases of the Mind and Nervous System); Dr. Stephen Smith (Orthopædic Surgery); Dr. J. W. S. Gouley (Diseases of the Genito-Urinary System); Dr. Montrose A. Pallen (Gynæcology); Dr. Henry G. Piffard (Dermatology); Dr. A. E. Macdonald (Medical Jurisprudence); Dr. J. L. Little (Clinical Surgery).

The Collegiate Year is divided into three Sessions: a Preliminary Session, a Regular Winter Session, and a Spring Session.

The Professors of the Practical Chairs are connected with the Bellevue and Charity Hospitals, and

the University Students are admitted to all the Clinics given therein, free of charge.

The Preliminary Session will commence Sept. 17, 1879, and will continue until Oct. 1. It will be conducted on the plan of the Winter Session.

The Winter Session commences on October 1, 1879, and will end about March 1, 1880.

In addition to daily Hospital Clinics, there are eight Clinics each week in the College. Five Didactic Lectures are given daily in the College building, and Evening Recitations are conducted by the Professors of Chemistry, Practice, Anatomy, *Materia Medica*, Physiology, Surgery, and Obstetrics, upon the subjects of their lectures.

In the Spring Session, which will commence early in March and last about twelve weeks, besides the daily Clinics, Recitations, and Special Practical Courses, there are given Lectures on Special Subjects by the members of the Post-Graduate Faculty.

The Dissecting-room is open throughout the entire Collegiate Year; material is furnished free of charge.

Students who have studied two years may be admitted to examination in Chemistry, Anatomy, and Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, *Materia Medica* and Therapeutics, Surgery, and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

Fees.—These are: for Course of Lectures, 140 dollars; Matriculation, 5 dollars; Demonstrator's Fee (including material for dissection), 10 dollars; Graduation Fee, 30 dollars; Post-Graduate Certificate, 30 dollars.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

THE teaching staff of the College consists of the following professors:—Dr. Isaac E. Taylor (Obstetrics and Diseases of Women)—*Emeritus*; Dr. James R. Wood (Surgery)—*Emeritus*; Dr. Fordyce Barker (Clinical Midwifery and Diseases of Women); Dr. Austin Flint (Principles and Practice of Medicine, and Clinical Medicine); Dr. W. H. Van Buren (Principles and Practice of Surgery, Diseases of the Genito-Urinary System, and Clinical Surgery); Dr. Lewis A. Sayre (Orthopædic Surgery, and Clinical Surgery); Dr. Alexander B. Mott (Clinical and Operative Surgery); Dr. Wm. T. Lusk (Obstetrics and Diseases of Women and Children, and Clinical Midwifery); Dr. A. A. Smith (*Materia Medica* and Therapeutics, and Clinical Medicine); Dr. Austin Flint, jun. (Physiology and Physiological Anatomy); Dr. Joseph D. Bryant (General, Descriptive, and Surgical Anatomy); Dr. R. Ogden Doremus (Chemistry and Toxicology); Dr. Edward G. Janeway (Pathological Anatomy and Histology, Diseases of the Nervous System, and Clinical Medicine); Dr. Henry D. Noyes (Ophthalmology and Otology); Dr. John P. Gray (Psychological Medicine and Medical Jurisprudence); Dr. Erskine Mason and Dr. J. Howe (Clinical Surgery); Dr. Edward L. Keyes (Dermatology, and Adjunct to the Chair of Principles of Surgery); Dr. J. L. Smith (Diseases of Children); Dr. L. M. Yale (Lecturer Adjunct upon Orthopædic Surgery).

The Collegiate Year in this institution is divided into a preliminary Autumnal Term, the Regular Winter Session, and a Spring Session. The preliminary Autumnal Term for 1879-80 will begin on Wednesday, September 17th, 1879, and continue

until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures upon special subjects and daily clinical lectures, will be given by the entire Faculty. The Regular Session will begin on Wednesday, October 1, 1879, and end about March 1, 1880. During this Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction. The Spring Session continues from March 1 to June 1. During this Session, daily Recitations from Text-Books in all the Departments are held by a corps of examiners. Regular Clinics are also given in the Hospital and College building.

Fees.—1. For the preliminary and Regular Term: all the lectures, including clinical lectures, 140 dollars; Matriculation fee, 5 dollars; Demonstrator's ticket (including material for dissection), 10 dollars; Graduation fee, 30 dollars. 2. For the Spring Session: Matriculation (ticket good for the following winter), 5 dollars; Recitations, Clinics, and Lectures, 35 dollars; Dissection (ticket good for the following winter), 10 dollars.

Students who have attended two full Winter Courses of Lectures may be examined at the end of their second course upon *Materia Medica*, Physiology, Anatomy, and Chemistry, and, if successful, they will be examined at the end of their third course upon Practice of Medicine, Surgery, and Obstetrics only.

UNIVERSITY OF PENNSYLVANIA.

THE Medical Department of this University is the oldest medical school in America, having been established in 1765 by Drs. John Morgan and Wm. Shippen, on the plan of the Edinburgh University, of which the founders were graduates. The Professors are: Dr. Joseph Leidy (Anatomy); Dr. R. A. Penrose (Obstetrics and Diseases of Women and Children); Dr. A. Stillé (Medicine and Clinical Medicine); Dr. D. H. Agnew (Surgery and Clinical Surgery); Dr. H. C. Wood (*Materia Medica* and Pharmacy, and Nervous Diseases—Clinical); Dr. W. Pepper (Clinical Medicine); Dr. W. Goodell (Clinical Gynecology); Dr. J. Tyson (General Pathology and Morbid Anatomy); Dr. T. G. Wormley (Chemistry); Dr. J. Ashhurst, jun. (Clinical Surgery); Dr. H. Allen (Physiology); Dr. W. F. Norris (Diseases of the Eye—Clinical); Dr. G. Strawbridge (Diseases of the Ear—Clinical); Dr. L. A. Duhring (Diseases of the Skin—Clinical).

Besides these, the following *emeritus* professors belong to the Medical Faculty: Dr. Henry H. Smith (Surgery); Dr. Charles Stillé (Provost); Dr. John Neill (Clinical Surgery).

Candidates for the degree must attend three Winter Courses of five months each, consisting of Didactic Lectures, Clinical Lectures, and practical work in laboratories and hospitals. The curriculum is as follows. *First Year:* Anatomy, Histology, *Materia Medica* and Pharmacy, General Chemistry, Physiology, General Pathology, and Morbid Anatomy; Final Examinations in General Chemistry, and *Materia Medica*. *Second Year:* Anatomy, Topographical Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy, Therapeutics, Obstetrics, Theory and Practice of Medicine, Surgery, Clinical Medicine and Clinical Surgery; Final Examinations in Anatomy, Medical Chemistry, Physiology, General Pathology and Morbid Anatomy. *Third Year:* Topographical Ana-

tomy, Theory and Practice of Medicine, Surgery, Obstetrics, Therapeutics, Operative Surgery, Minor Surgery and Bandaging, Diseases of Women and Children, Didactic Gynecology, Bedside Instruction in Practical Medicine and Surgery, Practical Ophthalmology, Otology, Dermatology, and Electro-Therapeutics; Clinical Medicine and Surgery, and Special Clinics (Nervous Diseases, Diseases of Skin, Eye, Ear, and of Women and Children); Final Examinations in Therapeutics, Theory and Practice of Medicine, Surgery, and Obstetrics.

Great clinical facilities are afforded by the University, Philadelphia, and Pennsylvania Hospitals.

Students who have attended one course in a regular medical school (homœopathic or "eclectic" school not being recognised) will be admitted as students of the second course, after an examination in General Chemistry, and *Materia Medica* and Pharmacy. Students who have attended two courses in a regular medical school, will be admitted as students of the third course after examination in General and Medical Chemistry, *Materia Medica* and Pharmacy, Anatomy, and Physiology. Graduates of other regular medical schools in good standing will be admitted as students of the third course without examination.

There are laboratories of Chemistry, Pharmacy, Histology, Physiology, and Pathology.

The fees, payable in advance, are: First Course of Lectures, including matriculation and dissection, 155 dollars; Dissecting material free. Second Course, 150 dollars, including dissection. Third Course, 110 dollars, including operating and bandaging. Graduation Fee, 30 dollars.

An Auxiliary Department of Medicine was instituted in 1865, for the purpose of supplementing the ordinary course of medical instruction by lectures given during the spring months on certain collateral branches of Science. Lectures are delivered in Comparative Anatomy and Zoology, Medical Jurisprudence and Toxicology, Mineralogy and Geology, Botany, and Hygiene. The lectures of this department are free to all the matriculates and graduates of the Medical Department of the University. To others, a fee of ten dollars is charged for each professor's ticket, or thirty-five dollars for the whole course. The degree of Doctor of Philosophy (Ph. D.) is conferred on graduates of the Medical Department of the University, or of other medical schools on the *ad eundem* list, who shall have attended two full courses of lectures in the Auxiliary Department of Medicine, and passed a satisfactory examination. The Faculty desire it to be understood that their examination standard for this degree is necessarily high.

Dental Department.—The Trustees have established a Dental Department. The professors include those of Anatomy, Physiology, Chemistry, and *Materia Medica*, in the Medical Department, with Dr. Charles J. Essig, Professor of Mechanical Dentistry and Metallurgy, and Dr. Edwin T. Darby, Professor of Operative Dentistry. Two years' study, two courses of lectures, and examination at the end of the second course, are the requirements for graduation. Graduates of the Dental Department of the University of Pennsylvania may become candidates for the degree of Doctor of Medicine (M.D.), after attending the third year course of lectures in the Medical Department of the University of Pennsylvania; but the Secretary of the Department of Medicine must be informed of the intention of the student to take the medical degree at or before the beginning of his second course of lectures, in order

that this course may be so modified that it may be a full medical as well as dental course.

Fees.—Matriculation, 5 dollars; one course of lectures, 100 dollars; Dissecting fee, 10 dollars; Graduation fee, 30 dollars.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

The lectures during the coming Winter Session will be delivered by the following professors: Dr. Samuel D. Gross (Institutes and Practice of Surgery); Dr. Ellerslie Wallace (Obstetrics and Diseases of Women and Children); Dr. John B. Biddle (Materia Medica and General Therapeutics); Dr. J. Aitken Meigs (Institutes of Medicine and Medical Jurisprudence); Dr. J. M. Da Costa (Practice of Medicine); Dr. W. H. Pancoast (General, Descriptive, and Surgical Anatomy); Dr. Robert E. Rogers (Medical Chemistry and Toxicology); Dr. Joseph Pancoast is *emeritus* professor of Anatomy.

Continuous Instruction is given throughout the year (with the exception of the months of July and August), which is free to the matriculates of the Winter Session. The following special subjects are taught during the Preliminary Course in September:—Medical Jurisprudence, by Professor Meigs; Dermatology and Syphilitic Disease, by Dr. F. F. Maury, Surgeon to the Philadelphia Hospital; Pathological Anatomy, by Dr. Longstreth, Pathologist to the Pennsylvania Hospital; Operative Surgery, with Operations on the Cadaver, by Dr. John H. Brinton, Surgeon to the Philadelphia Hospital; Diseases of the Urino-Genital Organs, by Dr. S. W. Gross, Surgeon to the Philadelphia Hospital; Ophthalmology is treated both clinically and didactically during the entire course, by Dr. William Thomson, Surgeon to the Wills Ophthalmic Hospital; Laryngoscopy, with Disease of the Throat, by Dr. J. Solis-Cohen.

The Demonstrator of Surgery, Dr. J. E. Mears, delivers a distinct course of Demonstrations of Surgery, with illustrations on the cadaver, during the entire session.—Practical Chemistry, with Qualitative and Quantitative Analysis, the Examination of Normal and Abnormal Products, and Manipulation by the student, is taught by the Professor of Chemistry, assisted by the Demonstrator.—For the study of Practical Anatomy, a full supply of material is furnished free of charge. The dissecting ticket (fee 10 dollars) is good for one year from the date of issue.

The New Hospital of the Jefferson Medical College is designed for the accommodation of 125 patients. In connection with the hospital is the out-door or dispensary department, which furnishes much valuable material for clinical instruction. The amphitheatre, provided for Clinical Lectures, will seat more than six hundred students. Daily Clinical Lectures are given at the hospital, through the entire year, by members of the Faculty, and by the hospital staff.

A Summer Course of Supplementary Lectures is given, extending through April, May, and June. There is no additional charge for this Course to matriculates of the College, except a registration fee of five dollars; non-matriculates may pay thirty-five dollars, which is, however, credited on the amount of fees paid for the ensuing Winter Course.

The *Fees* are: for a full Course, 140 dollars; Matriculation Fee (paid once only), 5 dollars; Graduation Fee, 30 dollars.

Students who have attended two full courses on *Materia Medica*, *Institutes*, *Anatomy*, or *Chemistry*, may be examined on any of these branches at the end of their second course.

ST. LOUIS MEDICAL COLLEGE.

THE lectures during the coming Winter Session will be delivered by the following Professors: Dr. J. J. McDowell (Anatomy); Dr. Hodgen (Surgical Anatomy, Special Fractures and Dislocations, Clinical Surgery); Dr. Baumgarten (Physiology and Histology); Dr. Gregory (Practice of Surgery and Clinical Surgery); Dr. Alleyne (Therapeutics and *Materia Medica*, and Diseases of Children); Dr. Smith (Pathological Anatomy and Clinical Medicine); Dr. Boislinière (Obstetrics); Dr. Litton (Chemistry); Dr. Johnson (Principles and Practice of Medicine).

Clinical Instruction will be given throughout the year: in Surgery, by Professor Gregory, at the St. Louis Hospital, and Professor Hodgen, at the City Hospital; in Gynæcology, by Professor Boislinière and Dr. Moses, at the St. Louis Hospital; Diseases of the Ear and Eye, by Dr. Pollak, and Laryngoscopy and Diseases of the Air Passages, by Dr. Glasgow, both at the same Hospital.

During the Spring Session, lectures are given: on Gynæcology, by Dr. Barrett; on Skin Diseases and Syphilis, by Dr. Lebeau; on Diseases of Children, by Dr. Moses; and on the Chemical Examinations of the Urine, by Dr. Litton. Demonstrations in Histology are also given by Dr. Boutwell. The Demonstrator of Anatomy, Dr. Mudd, delivers a course on Minor and Operative Surgery during the Spring Session, with illustrations on the dead body.

In the City Hospital, nearly 4,000 patients are treated annually. In St. Luke's Hospital, the average daily attendance of out-patients is about sixty.

The *Fees* are: Matriculation fee (paid but once), 5 dollars; for the whole Winter Course, 105 dollars; Graduation fee, 20 dollars; Demonstrator's ticket, 10 dollars; laboratory fee, 10 dollars; Hospital tickets gratuitous.

Students, whether graduates or not, who have attended two full courses of lectures in other accredited medical schools, will receive all the tickets to the lectures of this College, including the dissecting ticket, for 75 dollars, exclusive of the matriculation fee.

PRELIMINARY SCIENTIFIC EDUCATION.

A highly important step has been taken by the trustees of the Johns Hopkins Hospital and Medical School in Baltimore, by the institution of a course of education to be followed as a preliminary to the study of medicine. We are indebted to the *New York Medical Record* for the following outline of the prospectus.

The object of the preliminary course, according to the prospectus of the school, is to give the student a "liberal education, but one rather scientific than literary, and including a thorough knowledge of the structure and functions of the human body in health". The student will be prepared at the completion of this course to enter upon the study of the regular branches of medicine. The preliminary course will extend over three years, but students who pass a successful examination upon the studies prescribed for the first year will be allowed to enter at once upon the studies of the second year. Stu-

dents matriculating in the above course, who are not already students of the University, will be obliged to pass an examination in elementary mathematics, algebra, and geometry, and to render translations from Cæsar and the Æneid. Excellency in spelling and conformity to the rules of English grammar are to be a *sine quâ non* of success in the examination. The course for the first year consists of French, German, and Drawing (free hand), with lectures and laboratory work in Experimental Physics, Elementary Mechanics, and Chemistry. The curriculum for the second year includes Chemistry, General Biology, an elementary course of Comparative Anatomy and Zoology with dissections, an elementary course in Physiology and Histology with laboratory work, Human Osteology and the Anatomy of the Ligaments and Joints, and Logic. The studies of the third year are to be Human Anatomy, an advanced course in Physiology and Histology, the elements of Embryology, and Psychology. An examination will be held at the end of each year upon the studies pursued during that year. Graduation in the above-mentioned branches will entitle the student to entrance upon the studies of the medical school without further examination. The preliminary course, however, is "designed to meet the requirements of students who wish to obtain a sound scientific basis for the professional studies, whatever medical school they may afterwards select". A formal diploma is to be granted to the graduate of the preliminary course.

The course in Physics, extending through the first year, will consist of weekly recitations, lectures, and laboratory exercises. A morning of each week is to be set apart for laboratory work. This work has two ends in view: 1. To give the student a clearer insight into the subjects studied, serving as a test of progress to both teacher and learner; and 2. To enable him to acquire a familiarity with the use of apparatus. The manner of conducting the exercise will be as follows. With the enunciation of a problem, each student will receive the apparatus necessary for its solution, and will be required to make the series of observations which, with their discussion and reduction, he is to submit to his instructor. These results will then be criticised and returned. Those who are aiming at the profession of medicine will thus grow familiar with physical instruments and methods which are of prime importance in physiological researches—for example, thermometry, the laws governing the phenomena of electricity, of light, etc.

In the course on Chemistry, both organic and inorganic chemistry will be treated as thoroughly as possible: an examination upon the matter considered will be held after each two lectures. The principal work will be done in the laboratory. A knowledge of the general principles of chemistry must be had before entering the chemical laboratory. Regarding the nature of the chemical course in the laboratory, the prospectus says: "At first the student will have to make himself acquainted with the action of the various classes of substances upon each other, by actual observation at the laboratory desk; and his knowledge will be constantly tested by means of appropriate problems given him for solution. After completing this course, he will be enabled further to test his acquirements by taking up a course of qualitative and quantitative analysis. At intervals during the time he is engaged in this work he will be required to prepare some chemical compounds in a pure state, so that his ideas concern-

ing chemical action may become enlarged, and his knowledge of the special properties of the different classes of compounds more definite and detailed."

The course in Biology is to consist of General Biology, preliminary to the study of anatomy and physiology. The student will be taught how to dissect, and the use of the microscope, "and will learn, in a general way, the forms assumed and the actions performed by living things". With this end in view, certain types, such as the amoeba, vibrio, etc., will be minutely studied. Under this head also will come the consideration of homology and analogy. At the termination of the above course, the subject of Animal Morphology will be considered. The characters and affinities of each of the main groups of the animal kingdom will be systematically investigated. Then will come animal physiology and histology, with special reference to the human body, viz., the nutritive medium, the supporting tissues and organs, the contractile tissues, the nervous tissues, etc. In connection with this course students will be taught the preparation of specimens for microscopical examination. They will also be required to perform the simpler physiological experiments for themselves. Human Osteology, including the form, development, and general arrangement of the skeleton, will be taught in this year's course. The third year will be devoted to Human Anatomy, with lectures and demonstrations on the "anatomy of the muscular, vascular, nervous, and other systems of the body; and on the regional anatomy of certain important parts". Later in the year comes an advanced course in Physiology and Histology, consisting of—1. The physiology of the senses; 2. The physiology and histology of the nerve-centres; 3. A course of six lectures upon the chemistry of nutrition; 4. A course of lectures upon histogenesis (intended mainly as a foundation for the study of pathological anatomy). The year ends, finally, with the elements of Embryology.

The expense of tuition will amount to 80 dollars *per annum*, together with small charges for laboratory material. Free scholarships are provided for those young men from Virginia, Maryland, and South Carolina who need assistance. The term begins towards the end of September, and ends in the following June. There are short vacations at Christmas and Easter.

MEDICAL EDUCATION IN THE DOMINION OF CANADA.

MCGILL UNIVERSITY, MONTREAL.

THE teaching staff of the University consists of the following Professors: Dr. Scott (Anatomy); Drs. Shepherd and MacDonnell (Practical Anatomy); Dr. Girdwood (Practical Chemistry); Prof. Osler (Physiology, Histology, both Practical and Didactic, and Pathology); Prof. Wright (Materia Medica); Prof. Howard (Theory and Practice of Medicine); Prof. Ross (Clinical Medicine); Prof. Fenwick (Principles and Practice of Surgery); Prof. Roddick (Clinical Surgery); Prof. McCallum (Midwifery); Prof. Gardner (Medical Jurisprudence); Prof. Godfrey (Hygiene and Public Health); Dr. Buller (Ophthalmology and Otolaryngology); Prof. Dawson (Botany and Zoology).

Persons who are not Graduates in Arts of recognised Universities are required to submit to the Matriculation Examination, and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec will be accepted by this University.

Instruction is given by lectures, demonstrations, clinical teaching, and practical exercises. In each class a weekly examination is held to test the progress of the student, and, in addition, two or three written examinations are given throughout the Session.

The complete course of study in Medicine extends over four Sessions of six months each, and leads to the Degree of M.D., C.M.

The Hospitals connected with the School are: *The Montreal General Hospital*. The average number of beds occupied daily ranges from 130 to 140. Out-patients range on an average from 60 to 70. Clinical clerks are appointed to the medical and surgical wards every three months. Dressers are also appointed to the surgical wards and to the out-door department. *The Montreal Dispensary*, where about 10,000 patients are treated yearly. *The University Lying-in Hospital*, and *The University Dispensary for Diseases of Women*.

Fees: for the lectures, varying from 5 to 12 dollars; Matriculation, 5 dollars; Registration (each Session), 4 dollars; Degree, 20 dollars; Registration of Degree, 1 dollar. Hospital fees: *Montreal General Hospital*, 6 months, 8 dollars; 12 months, 12 dollars; perpetual ticket, 20 dollars. *Lying-in Hospital*, 6 months, 8 dollars. Summer Session, 10 dollars; Practical Histology (microscopes and reagents provided), 15 dollars.

Any student, after having paid the fees and attended two courses of any class, shall be entitled to a perpetual ticket for that class, except the following: Practical Anatomy, Practical Histology, and Practical Chemistry.

The Winter Session will begin on October 2 and will continue for 6 months.

TEXT-BOOKS.

THE object of the subjoined notes is to inform the student in general terms of the works which he may use as text-books. The list is not intended to be altogether exclusive—there may be good books not mentioned in it; nor is it our purpose to say always which book is the best in any subject. Some students learn best from one book; others from another. Again, some books are more adapted than others to the teaching of the school to which the pupil belongs. In addition to the ordinary text-books, reference will be made to some which, though not absolutely necessary to the student, may be studied both by him and by the licensed practitioner with advantage.

ANATOMY AND PHYSIOLOGY.

Among the indispensable text-books must be mentioned in the first place Quain's *Elements of Anatomy* (Longmans and Co.), edited by Drs. Sharpey and Allen Thomson, and Mr. Schäfer. In its last (the eighth) edition the work underwent thorough revision; and an interesting addition was made in the form of a chapter on the Development of the

Embryo, by Dr. Allen Thomson. Gray's *Anatomy* (Longmans) has been edited by Mr. Holmes; and among the improvements in the last edition are copies of drawings by Dr. Klein. A new (ninth) edition of Wilson's *Anatomist's Vade-Mecum*, by Dr. G. Buchanan and Mr. H. E. Clark of Glasgow, has been published by Messrs. J. and A. Churchill. Braune's *Atlas of Topographical Anatomy*, translated and edited by Mr. Bellamy (J. and A. Churchill), is a valuable book for reference. The drawings are made from plane sections of foreign bodies. There is also Bock's *Atlas of Human Anatomy* (Renshaw); and Messrs. J. and A. Churchill are publishing, in parts, a valuable *Atlas of Human Anatomy* by Mr. Godlee. The same firm have published a second edition of Mr. Flower's *Diagrams of the Nerves of the Human Body*. There are also the well-known Quain and Wilson's Anatomical Plates (Smith, Elder and Co.) For use in the dissecting-room, Ellis's *Demonstrations of Anatomy* (eighth edition, Smith, Elder, and Co.) has long established its claim as a trustworthy guide. It contains reduced copies of plates in the author's *Illustrations of Dissections*—a work which from its price the student can scarcely be expected to purchase, but which he should not fail to consult for assistance. Another good book for dissectors is Mr. Christopher Heath's *Practical Anatomy* (fourth edition, J. & A. Churchill). Dr. Cleland of Glasgow has also brought out a concise and accurate *Directory for the Dissection of the Human Body* (Smith, Elder, and Co.); and a *Dissector's Guide*, with illustrations, by Dr. D. J. Cunningham, is being published by MacLachlan and Stewart of Edinburgh. Messrs. Hensman and Fisher's *Anatomical Outlines for the Use of Students in the Dissecting-room and Surgical Class-room* (Longmans and Co.) are useful. Mr. Thomas Cooke's *Tablets of Anatomy and Physiology* (new edition) contain much information in a condensed form, and give useful aid in the study of the larger works. For students of Osteology, Mr. Wagstaffe has prepared the *Student's Guide to Human Osteology* (J. and A. Churchill); Holden's *Human Osteology* (fifth edition, J. and A. Churchill) is a standard work on the subject; and there is also Mr. Norton's *Osteology for Students* (Baillière, Tindal, and Cox). Mr. Henry Morris's *Anatomy of the Joints of Man* (J. and A. Churchill) is an instructive work. Mr. St. George Mivart's *Elementary Lessons in Anatomy* is a book in which the interest of the subject is increased by a demonstration of the chief relations of the structure of man to other animals. To students who feel an interest in the study of Zoology and Comparative Anatomy, we would recommend, as works that will give much information without being too large or costly, Mr. Flower's *Osteology of the Mammalia* (Macmillan and Co.), and Dr. H. A. Nicholson's *Manual of Zoology and Advanced Text-Book of Zoology*; as well as Huxley's *Manuals of the Anatomy of Vertebrated and Invertebrated Animals* (J. and A. Churchill). Professor Gegenbaur's *Elements of Comparative Anatomy*, translated by Mr. F. J. Bell (Macmillan and Co.) is a larger work. Dr. Rolleston's *Forms of Animal Life* is a good book for laying a foundation of Comparative Anatomy. For the study of Embryology (in addition to the chapter by Dr. Thomson in Quain's *Anatomy*, already referred to), the *Elements of Embryology*, by Dr. M. Foster and Mr. Balfour (Macmillan and Co.), should be consulted.

For instruction in Histology, Mr. Schäfer's *Course*

of *Practical Histology* (Smith, Elder, and Co.), and Dr. Rutherford's *Outlines of Practical Histology for Students and Others* (second edition, Churchill), are excellent guides; as is also the chapter on General Anatomy in Quain's *Anatomy*. Messrs. Smith, Elder, and Co. are publishing in monthly parts a valuable *Atlas of Histology*, by Dr. E. Klein and Mr. Noble Smith. Professor Stricker's collection of essays on *Human and Comparative Histology*, translated for and published by the New Sydenham Society, is a valuable work of reference; as is also Heinrich Frey's *Histology and Histo-Chemistry of Man*, translated by Mr. Barker (J. and A. Churchill).

In Physiology, the student will find any of the following to be trustworthy guides: Dr. M. Foster's *Text-Book of Physiology* (Macmillan and Co.); Dr. McKendrick's *Outlines of Physiology in Relation to Man* (Maclehose, Glasgow; Macmillan and Co.; and Fannin and Co., Dublin); Dr. L. Hermann's *Elements of Physiology*, translated by Professor Gamgee (second edition, Smith, Elder, and Co.); Huxley's *Lessons in Elementary Physiology* (new edition, Macmillan and Co.); and Flint's *Text-Book of Human Physiology* (H. K. Lewis). The well known Kirkes's *Handbook of Physiology* has been re-edited, with improvements, by Mr. Morratt Baker (J. and A. Churchill); and Dr. Carpenter's *Principles of Human Physiology*, by Mr. Power (eighth edition, J. and A. Churchill). The increased study in recent years of Practical Physiology has led to the publication of several guides to this department of study. An *Elementary Course of Practical Physiology* by Dr. M. Foster and Mr. Langley (Macmillan and Co.) is a book that can be recommended to beginners; while the more elaborate *Handbook for the Physiological Laboratory*, by Drs. Sanderson, Klein, Foster, and Brunton (Churchill), is more fitted for those who desire an extended knowledge of practical physiology.

As guides in the use of the Microscope, there are Dr. Beale's *Microscope in Medicine*, Dr. Carpenter on the *Microscope* (fifth edition, J. and A. Churchill), Wythe's *Microscopist's Manual* (third edition, Churchill), Marsh's *Section-Cutting*, (Churchill), and Martin's *Manual of Microscopic Mounting* (second edition, Churchill).

CHEMISTRY.

In Chemistry, among the most approved text-books, are Fownes' *Manual of Chemistry*, edited in two volumes, Inorganic and Organic, by Mr. Watts (twelfth edition, J. and A. Churchill); Roscoe's *Lessons in Elementary Chemistry*; Miller's *Elements of Chemistry* (Longmans and Co.); and Williamson's *Chemistry for Students* (Macmillan and Co.) A little book by Mr. R. M. Murray, entitled *Chemical Notes and Equations for the Use of Students* (MacLachlan and Stewart), gives an useful outline of the fundamental principles of chemical science. An elaborate *Treatise in Chemistry*, by Professors Roscoe and Schorlemmer, of Owens College, Manchester, is in course of publication by Macmillan and Co. Bowman's *Practical Chemistry*, seventh edition, by Mr. Bloxam, has an established reputation as a practical guide.

For instruction in Physiological Chemistry, there are Dr. Ralfe's *Outlines of Physiological Chemistry* (H. K. Lewis), and Mr. S. W. Moore's *Notes of Demonstrations in Physiological Chemistry* (Smith, Elder, and Co.)

BOTANY.

The text-books of Botany in most general use are Bentley's *Manual of Botany* (third edition, J. and A. Churchill); Henfrey's *Elementary Course of Botany*, third edition, by Dr. M. T. Masters (Van Voorst); Balfour's *Manual of Botany* (A. and C. Black); Oliver's *Lessons in Elementary Botany*; Sach's *Text-book of Botany*, translated by Mr. A. W. Bennett and Mr. W. T. Dyer (Macmillan and Co.), is a valuable work of reference in regard to Structural and Physiological Botany. Bentley and Trimen's admirable plates of *Medicinal Plants* (J. and A. Churchill) should be consulted by the student both of Botany and of Materia Medica.

MEDICINE.

For the student who is commencing his clinical studies there are several very good guide-books. Among them are Dr. A. W. Barclay's *Manual of Medical Diagnosis* (third edition, J. and A. Churchill), Dr. S. Fenwick's *Student's Guide to Medical Diagnosis* (fourth edition, J. and A. Churchill); Dr. O. Sturges' *Introduction to the Study of Clinical Medicine* (Smith, Elder, and Co.); and Dr. Finlayson's *Clinical Manual for the Study of Medical Cases* (Smith, Elder, and Co.) More advanced students and practitioners may consult with advantage Dr. Da Costa's *Medical Diagnosis* (third edition, Smith, Elder, and Co.) As a guide in physical diagnosis, Dr. Gee's *Auscultation and Percussion* (Smith, Elder, and Co.), may be safely trusted. Other useful books for the same purpose are Flint's *Manual of Percussion and Auscultation* (J. and A. Churchill); and Dr. Reginald Thompson's *Physical Examination of the Chest in Health and Disease* (H. Renshaw).

Of text-books in General Medicine, it is only necessary to mention Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (Longmans and Co.), and Dr. Aitken's *Science and Practice of Medicine* (C. Griffin and Co.), as works whose reputation has long been established. Among other books which may be recommended for the use of the student, are Dr. F. T. Roberts's *Handbook of the Theory and Practice of Medicine* (third edition, H. K. Lewis), Dr. J. S. Bristowe's *Treatise on the Theory and Practice of Medicine* (second edition, Smith, Elder, and Co.), Dr. Aitken's *Outlines of the Science and Practice of Medicine* (C. Griffin and Co.), Dr. Barlow's *Manual of the Practice of Medicine* (second edition, J. and A. Churchill), Dr. H. Hartshorne's *Essentials of the Principles and Practice of Medicine* (Smith, Elder, and Co.), and Dr. Charteris's *Student's Guide to the Practice of Medicine* (second edition, J. and A. Churchill). The advanced student and the practitioner will do well to consult Dr. Russell Reynolds's *System of Medicine* (five volumes, Macmillan and Co.), Trousseau's *Lectures on Clinical Medicine* (New Sydenham Society), and Ziemssen's *Cyclopædia of the Practice of Medicine* (Sampson Low and Co.)

SURGERY.

Mr. Erichsen's *Science and Art of Surgery* (seventh edition, Longmans and Co.), Mr. Holmes's *Surgery—its Principles and Practice* (second edition, Smith, Elder, and Co.), Mr. Bryant's *Practice of Surgery* (third edition, J. and A. Churchill), and Mr. Gant's *Science and Practice of Surgery* (second edition,

Baillière, Tindal, and Cox), are all very complete works, one of which should be in the possession of the student. For those who prefer smaller and more condensed works, there is the well known Druitt's *Surgeon's Vade-Mecum* (eleventh edition, Churchill). Mr. Christopher Heath has lately brought out a *Student's Guide to Surgical Diagnosis* (J. and A. Churchill). Among the works more specially devoted to Practical Surgery, the late Sir William Fergusson's excellent *System of Practical Surgery* (fifth edition, J. and A. Churchill), holds the foremost place. Among other books which may be consulted with advantage, are Mr. Holmes's *System of Surgery* (Longmans and Co.), Mr. Spence's *Lectures on Surgery* (A. and C. Black), Dr. S. D. Gross's *System of Surgery* (Smith, Elder, and Co.), and Billroth's *Lectures on Surgical Pathology and Therapeutics* (New Sydenham Society).

For the guidance of the student who is being instructed in practical and operative surgery, there are several good books. Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging* (fifth edition, Churchill) has for several years enjoyed a high reputation as a trustworthy guide. The *Manual of Operative Surgery on the Dead Body*, by Mr. Thomas Smith and Mr. Walsham (Longmans and Co.); Mr. Berkeley Hill's *Essentials of Bandaging* (Smith, Elder, and Co.); Mr. Bellamy's *Student's Guide to Surgical Anatomy* (J. and A. Churchill); Mr. Maunder's *Operative Surgery* (second edition, J. and A. Churchill); Mr. Joseph Bell's *Manual of the Operations of Surgery* (fourth edition, Maclachlan and Stewart); and Stimson's *Operative Surgery* (Lewis), are also works which can be recommended. Other larger works, most valuable for reference—and to be procured by the student if possible—are Mr. Jonathan Hutchinson's *Illustrations of Clinical Surgery*, consisting of plates, woodcuts, etc., illustrating surgical diseases, symptoms, accidents, operations, etc. (published in fasciculi by J. and A. Churchill); Mr. C. Heath's *Course of Operative Surgery*, with coloured plates (J. and A. Churchill); and Mr. Norton's edition of Bernard and Huette's *Text-Book of Operative Surgery* (Baillière, Tindall, and Cox). For the student of Military Surgery, Surgeon-General Longmore's work on *Gunshot Injuries* (Longmans and Co.), and Surgeon-Major Porter's *Surgeon's Pocket-Book*, are essential. A translation, by Dr. Clutton, of Professor Esmarch's *Surgeon's Handbook on the Treatment of Wounded in War*, is also of value.

MIDWIFERY; AND DISEASES OF WOMEN AND CHILDREN.

The text-books of Obstetric Medicine which hold the first place in the present day are, Dr. W. S. Playfair's *Treatise on the Science and Practice of Midwifery* (second edition, Smith, Elder, and Co.); and Dr. Leishman's *System of Midwifery* (second edition, J. Maclehose, Glasgow). Every student should have one or the other of these. For those who prefer smaller books, Dr. D. Lloyd Roberts's *Student's Guide to the Practice of Midwifery* (second edition, J. and A. Churchill) will be useful; there are also Dr. Alfred Meadows's *Manual of Midwifery* (Renshaw) and Dr. C. H. Carter's translation of Karl Schröder's *Manual of Midwifery* (J. and A. Churchill). Dr. J. G. Swayne's *Obstetric Aphorisms* (sixth edition, J. and A. Churchill), Dr. Clay's *Complete Handbook of Obstetric Surgery* (J. and A. Churchill), and Dr. Heywood Smith's *Practical*

Gynaecology (J. and A. Churchill) are very useful. Dr. Barnes's *Lectures on Obstetric Operations* (third edition, J. and A. Churchill) is a book which should be in the possession of every advanced student and general practitioner; as should also the *Clinical History of the Medical and Surgical Diseases of Women*, by the same author (second edition, Churchill). Dr. West's *Lectures on the Diseases of Women* (fourth edition, with additions by Dr. Matthews Duncan, J. and A. Churchill); Dr. Graily Hewitt's *Diagnosis and Treatment of Diseases of Women* (third edition, Longmans and Co.); the late Dr. F. Churchill's work on the *Diseases of Women* (sixth edition, Fannin and Co.); Dr. Emmet's *Principles and Practice of Gynaecology* (J. and A. Churchill); and Dr. Gaillard Thomas's *Practical Treatise on the Diseases of Women*, are all valuable books. A *Student's Guide to Diseases of Women*, by Dr. Galabin (J. and A. Churchill) has lately appeared; and Dr. Halliday Croom has brought out a work on *Minor Gynaecological Operations and Appliances* (Livingstone, Edinburgh; and Simpkin, Marshall and Co.).

Among text-books on Diseases of Children, must be mentioned Dr. West's well known *Lectures on the Diseases of Infancy and Childhood* (Longmans and Co.); Dr. Fleetwood Churchill's treatise on *The Diseases of Children* (Fannin and Co.); M. Guer-sant's *Surgical Diseases of Infants and Children*, translated by Dr. Dunglison (Smith, Elder, and Co.); Pepper's *Practical Treatise on Diseases of Children* (H. K. Lewis); Dr. Eustace Smith's *Clinical Studies of Disease in Children* (J. and A. Churchill); Dr. J. L. Smith's *Treatise on the Diseases of Infancy and Childhood* (fourth edition, H. K. Lewis); Dr. Tanner and Dr. Meadows' *Practical Treatise on Diseases of Infancy and Childhood* (third edition, H. Renshaw); and Steiner's *Compendium of the Diseases of Children*, translated by Mr. Lawson Tait (J. and A. Churchill).

PATHOLOGY.

An English translation of Virchow's treatise on *Post Mortem Examinations: the Art of Making them*, has been published by J. and A. Churchill; and the reputation of the Berlin professor as an authority in the matter is a sufficient warrant of its value. Messrs. Smith, Elder, and Co. have published a *Manual of Necroscopy*, by Dr. A. H. Newth, which is intended as a guide to the performance of *post mortem* examinations. Dr. R. J. Lee has lately brought out for the use of students commencing the study of Morbid Anatomy, a little book entitled *Pathological Anatomy: a Guide in the Post Mortem Room* (Richards, Great Queen Street). It is intended as an introduction to other works on the subject. As a manual of pathology, Dr. T. H. Green's *Introduction to Pathology and Morbid Anatomy* (Renshaw) has gained a deservedly high reputation. The *Lectures on Pathological Anatomy* of Drs. Wilks and Moxon (second edition, J. and A. Churchill), and Dr. J. F. Payne's improved edition of Jones and Sieveking's *Manual of Pathological Anatomy* (J. and A. Churchill), are also good books. We would also strongly recommend students to consult, and to possess, if possible, Rindfleisch's *Manual of Pathological Histology*, edited by the New Sydenham Society.

SPECIAL SUBJECTS.

There are several good text-books of the special departments which are taught in the schools.—For students of Ophthalmic Surgery, Mr. Soelberg Wells's *Treatise on Diseases of the Eye* (third edition, J. and A. Churchill); Mr. R. B. Carter's *Treatise on Diseases of the Eye* (Macmillan and Co.); Mr. Macnamara's *Manual of Diseases of the Eye* (third edition, J. and A. Churchill); Mr. George Lawson's *Diseases and Injuries of the Eye* (Renshaw); Mr. B. T. Lowne's *Handbook of Ophthalmic Surgery* (Smith, Elder, and Co.), are books that will be useful. Messrs. Churchill have also published the second edition of a little book by Mr. Charles Higgins, entitled *Hints on Ophthalmic Out-patient Practice*. Mr. E. A. Browne, of the Liverpool Eye and Ear Infirmary, has brought out a little book for instructing students *How to Use the Ophthalmoscope* (Trübner and Co.); and a valuable *Manual and Atlas of Medical Ophthalmoscopy* by Dr. Gowers (J. and A. Churchill) has lately been published.—In Aural Surgery, Mr. Dalby's book on *Diseases and Injuries of the Ear* is very good; there is also a book by Mr. G. P. Field on *Diseases of the Ear*; while Dr. Burnett's work on *The Ear: its Anatomy, Physiology, and Diseases*, and Dr. St. John Roosa's *Practical Treatise on Diseases of the Ear* (fourth edition, H. K. Lewis) are valuable and elaborate works. Dr. Macnaughton Jones has brought out a good *Practical Treatise on Aural Surgery*, and also a well-executed *Atlas of the Diseases of the Membrana Tympani and Auricle* (J. and A. Churchill).—For the use of students in Dermatology, there is the late Dr. Tilbury Fox's treatise on *Skin-Diseases, their Description, Pathology, Diagnosis, and Treatment* (new edition, H. Renshaw). Mr. Erasmus Wilson's *Treatise on Diseases of the Skin*, and his *Lectures on Dermatology* (J. and A. Churchill) are well known and valuable works. Dr. Pullar has translated the *Text-Book of Skin-Diseases*, by Dr. Neumann of Vienna (Hardwicke and Bogue). Dr. R. Liveing's *Handbook on the Diagnosis of Skin-Diseases*, and his *Notes on the Treatment of Skin-Diseases* (fourth edition, Longmans and Co.), are well deserving of recommendation as works full of practical instruction. Dr. Tilbury Fox has supplied an excellent *Atlas of Skin-Diseases* (Renshaw); while a work with a similar title by Dr. Duhring of Philadelphia (Lippincott and Co.), is also very good.—For students of Dental Surgery, the following books are published by Messrs. J. and A. Churchill: Tomes's *Manual of Dental Surgery* (second edition); Tomes's *Manual of Dental Anatomy*; Sewill's *Student's Guide to Dental Anatomy and Surgery*; Smith's *Handbook of Dental Anatomy and Surgery* (second edition); Stocken's *Elements of Dental Materia Medica and Therapeutics* (second edition); and Coles's *Manual of Dental Mechanics* (second edition).

MATERIA MEDICA AND THERAPEUTICS.

Text-books in Materia Medica abound. A well-known and useful book as a manual of materia medica is Dr. Garrod's *Essentials of Materia Medica and Therapeutics*, edited by Dr. Buchanan Baxter (sixth edition, Longmans and Co.) It requires, however, to be supplemented by a treatise on therapeutics; for which purpose Dr. Ringer's *Handbook of Therapeutics* (seventh edition, H. K. Lewis), Dr. Waring's *Manual of Practical Therapeutics* (third

edition, J. and A. Churchill), Dr. Alexander Harvey's *First Lines of Therapeutics* (H. K. Lewis), Dr. Farquharson's *Guide to Therapeutics* (Smith, Elder, and Co.), and Dr. Sparks's edition of Binz's *Elements of Therapeutics* (J. and A. Churchill), are to be recommended. Dr. Milner Fothergill's *Practitioner's Handbook of Treatment* (Macmillan and Co.) will be especially welcome to those who are interested in the endeavour to show the agreement between science and practice. Dr. H. C. Wood's *Treatise on Therapeutics* (Smith, Elder, and Co.) pays special attention to the therapeutic action of drugs. Other trustworthy books are Dr. W. G. Smith's *Commentary on the British Pharmacopœia* (Smith, Elder, and Co.), Royle and Harley's *Manual of Materia Medica and Therapeutics* (sixth edition, J. and A. Churchill), Neligan's *Medicines*, edited by Mr. Macnamara (Fannin and Co.), Dr. Handsel Griffiths' *Materia Medica and Pharmacy*, edited by Dr. Duffey (Baillière, Tindal, and Cox; and Fannin and Co., Dublin), Dr. R. Bartholow's *Practical Treatise on Materia Medica and Therapeutics* (H. K. Lewis), Thorowgood's *Student's Guide to Materia Medica* (J. and A. Churchill), Milne's *Manual of Materia Medica and Therapeutics*, fourth edition, by Dr. W. Craig (Livingstone, Edinburgh; and Simpkin, Marshall, and Co.), and Dr. Phillips's *Materia Medica and Therapeutics* (J. and A. Churchill). Dr. Lauder Brunton's *Tables of Materia Medica* (Smith, Elder, and Co.) are a most comprehensive and valuable syllabus, and will be very useful to the student. So also are Dr. I. Owen's *Tables of Materia Medica* (fourth edition, J. and A. Churchill). We have already referred, under the head of Botany, to Messrs. Bentley and Trimen's *Medicinal Plants*.

As text-books in the application of Electricity to Medicine, besides Dr. Althaus's *Treatise on Medical Electricity* (Longmans and Co.), the following are likely to prove useful to students; viz., a *Text-Book of Electricity in Medicine and Surgery*, by Dr. G. V. Poore (Smith, Elder, and Co.); a *Handbook of Medical and Surgical Electricity*, and *How to Use a Galvanic Battery*, by Dr. H. Tibbits (J. and A. Churchill); and Mr. de Watteville's *Practical Introduction to Medical Electricity* (H. K. Lewis).

FORENSIC MEDICINE, ETC.

As elementary works of convenient size, and containing valuable instruction, Dr. A. S. Taylor's *Manual of Medical Jurisprudence* (tenth edition, J. and A. Churchill), Guy and Ferrier's *Principles of Forensic Medicine* (Renshaw), and Dr. H. A. Husband's *Student's Handbook of Forensic Medicine and Medical Police* (third edition, Livingstone, Edinburgh; and Simpkin, Marshall, and Co.) are to be recommended. The more advanced student and the practitioner should consult Dr. Taylor's *Principles and Practice of Medical Jurisprudence* (second edition, J. and A. Churchill); the *Handybook of Forensic Medicine and Toxicology*, by the late Dr. Bathurst Woodman and Dr. Tidy (J. and A. Churchill); Dr. Ogston's *Lectures on Medical Jurisprudence* (J. and A. Churchill); and the translation of Casper's *Forensic Medicine*, published by the New Sydenham Society. The last-named book gives an idea of the manner in which medico-legal investigations are carried out on the continent.

Under the head of Hygiene, the principal books are Dr. Parkes's *Manual of Practical Hygiene*, edited by Dr. de Chaumont (fifth edition, J. and A. Churchill); Wilson's *Handbook of Hygiene and*

Sanitary Science (third edition, J. and A. Churchill); Dr. de Chaumont's *Lectures on State Medicine* (Smith, Elder, and Co.); and Hart's *Manual of Public Health* (Smith, Elder, and Co.)

REVIEWS.

Neurasthenia (Nerve-Exhaustion), with Remarks on Treatment. By GEO. M. BEARD, A.M., M.D. New York, 1879.

Other Symptoms of Nervous Exhaustion (Neurasthenia). By GEO. M. BEARD, A.M., M.D. Chicago, 1879.

Quousque tandem! we feel inclined to exclaim when noticing the appearance of the successive papers on nervous exhaustion brought forward by the indefatigable Dr. Beard, of New York. This subject, which has been years ago treated by Dr. Radcliffe, ourselves, and other observers, is now worn so threadbare that the unquestioned energy of our American *confrère* might with advantage be transferred to another and less explored sphere of pathology. Yet, for anything we know, a hundred or more of the same class of papers as the above-mentioned, may be looming in the distance. If one and all symptoms of nerve-fatigue, which occur in daily life, temporarily after over-exertion, or habitually in debilitated persons, are to be made the subject of a lengthy kind of *causerie*—for no other word is applicable to it—this kind of medical literature is indeed practically illimitable.

No doubt we have all occasionally felt a distressing feeling in the stomach when empty, only relieved by eating; and we have probably all noticed a person gaping and yawning after long reading a newspaper, though no other evidence of weariness annoys him; but is it really necessary at the present day to bring such subjects prominently under the notice of the profession?

We may also ask where the coining of new Greek and Græco-Latin compounds is to stop, if Dr. Beard will go on as he is doing now, or if he were—*horribile dictu*—to be followed by others? Who now remembers the hundred-and-one new Greek terms coined by Sir Duncan Gibb in his book on diseases of the throat? Dr. Beard's compounds are mostly etymologically bad, and moreover perfectly sure not to be adopted by the profession. We have no objection to "neurasthenia"; but "cerebrasthenia" is bad, being half Latin and half Greek. If a Greek term were really required, "encephalasthenia" would be more correct. Again, "anthrophobia"—"fear of society", is bad; if we wanted such a term, it should be "anthropophobia". But what are we to say about "astraphobia"—fear of lightning? and "agoralbretie" (p. 9)—"fear of fears"? We fear we shall in retaliation be obliged to coin a Greek term expressive of our horror at Dr. Beard's coining propensities.

The same vagueness which we have noticed in the author's *chatting* about symptoms, is perceptible in his remarks on treatment. Of what use is it to tell us that the following are the chief agents in the treatment of neurasthenia?—"Electricity in the methods of general faradization and central galvanization, arsenic in its different forms, as Fowler's solution, and chloro-phosphide, arsenite of strychnia, ergot, cannabis indica, all the bromides, quinine, iodide of potassium, digitalis, calabar bean, conium, gelsemin, belladonna, malt, oil, phosphorus, strychnine, iodoform, cimicifugin, kumyss and the salts of zinc; counter-irritation, mental therapeutics, massage, ice bags and hot-water bags and hydrotherapy in the form of hot, warm and cold baths, Russian baths and douches"; or that "individual idiosyncrasies must be religiously respected, and when we find one cannot bear gelsemin or belladonna, for example, we can fall back on other remedies"; also that "Medical treatment to be surely effective must be combined with hygienic treatment." These are platitudes which can only be excused in talking to first-year's students, but should not be brought forward as contributions to the therapeutics of nervous diseases.

JULIUS ALTHAUS, M.D.

Index to the Journal of Mental Science. Churchill and Co., New Burlington Street, 1879.

Dr. G. Fielding Blandford has arranged a very complete Index to the first twenty-four volumes of the *Journal of Mental Science*. It is got up in excellent style, being printed in a large clear type, so arranged that the various titles of papers and names of their authors catch the eye at a moment's glance. It stands as a monumental record of all the best work that has been done in the field of psychological medicine since the year 1853. Dr. Blandford, "when President of the Association in 1877, offered to mark his year of office by undertaking the work for the Association. The annual meeting, it need scarcely be said, gratefully accepted Dr. Blandford's proposal."

The Index is accompanied by a concise historical sketch of the Association since its foundation in 1841, from the pen of Dr. D. Hack Tuke.

This volume ought to be in the hands, not only of every alienist, but of every member of the medical profession, as it forms a most useful guide to all the best literature in this speciality.

H. SUTHERLAND, M.D.

NEW INVENTIONS.

NEAVE'S FOOD FOR INFANTS.

Careful analytical examination has proved the theoretical value, and continued use the practical utility, of this food. The analyses made of it show a proper proportion of flesh and bone-forming and heat-giving constituents, whilst the amount of bran wisely utilised in its manufacture is of especial value in producing regular action of the bowels without the use of aperients—a condition so necessary for healthy infant life. As an adjunct to the natural aliment of infants, or in those cases where artificial feeding is indispensable, we can unhesitatingly recommend the use of Neave's food. It will also be found palatable and nutritious for invalids requiring a farinaceous diet.

MISCELLANY.

FIVE CHILDREN AT A BIRTH.—The *Cologne Gazette* reports from Kettwig that a woman there has had five children, four boys and one girl, at a birth. They only lived a few hours. Though very small, they were well formed. The mother is recovering rapidly.

A PECULIAR DEFORMITY OF THE SKULL WHICH OCCURS FREQUENTLY IN TOULOUSE.—At a recent meeting of the Société d'Anthropologie, Dr. Broca spoke on a peculiar custom which prevailed at Toulouse, of deforming the heads of infants by making them wear a head-dress which gave to their skulls the shape of a sausage. It has long been thought that this strange habit did no harm, beyond giving the head that peculiar shape; but it has been proved of late that it greatly increases the tendency to epilepsy and mental diseases. In fact, the number of deformed patients in the asylums is much larger in proportion than is the number of inhabitants of the department who enjoy their full mental health. M. Broca added, that those persons who did not succumb to madness underwent a peculiar pathological deformity of the brain. This has been revealed by two necropsies, which had been made with the object of studying the question. In both cases, the dura mater adhered firmly to the skull, and the inner surface of the latter bore traces of an ancient inflammation. The frontal lobe had been checked in its growth, and this important portion of the brain had remained small. However, neither of the individuals had exhibited any symptoms of cerebral disease, their intellectual capacities being not much below the average. They had been neither mad nor idiotic. Fortunately, however, for the coming generation of Toulouse, this remarkable head-dress is now gradually becoming obsolete.

PROTAGON.—In the year 1865, Dr. Oscar Liebreich published a memoir in which he announced the discovery in the brain of a definite proximate principle containing phosphorus. Unlike the numerous bodies possessed of ill-defined properties, which had by different writers received the names of cerebrin, cerebrie acid, lecithin, or phosphorised fats, this new body could be extracted by an easy process in a state of purity, and to it, probably to indicate it as the first definitely specific constituent of brain matter, Dr. Liebreich gave the name of "protagon" (*πρωταγος*). The brain was subjected to a special process by which the protagon was separated in the form of microscopical needle-like crystals, differing a little in arrangement and form according to the concentration of the solution. As the result of several analyses, Liebreich ascribed to protagon the formula $C_{116}H_{241}N_4O_{22}P$. It was difficult of solution in cold alcohol, more easily so in warm alcohol and ether. In water it swelled and presented the appearance of an opaque jelly, ultimately dissolving so as to form an opaque solution. For a time, observers admitted it to be a definite phosphorised constituent of the brain, and they began to seek for it in various liquids and solids of the body. Hermann announced its discovery in the blood-corpuscles, and connected many of the physical properties of these bodies with its presence. Parke found it in the yolk of egg, but Hoppe-Seyler thought that the yolk of egg contained not protagon but lecithin, and though this very distinguished investigator did not commit himself to a denial of the existence of protagon in the brain, still he seemed to have commenced to entertain some doubts about it. In 1868, however, Dr. Diaconow, a pupil of Professor Hoppe-Seyler's, published a paper on the subject, which seemed to have an immense influence over the physiological chemists, causing them all to come to the conclusion that Liebreich's protagon did not exist as a definite proximate principle, but that it consisted of a mixture of lecithin with a body free from phosphorus, cerebrin, and causing the master himself to write "as to protagon, I believe that I must decide for its being a mixture of some glucosid free from phosphorus, as cerebrin, with lecithin"; and so the matter rested until recently, when the whole subject was once more most carefully re-investigated in the physiological laboratory of Owens College, Manchester, by Professor Gamgee, F.R.S., and Mr. E. Blankenhorn. The process employed in the preparation of protagon, and the results of the ultimate analyses thereof, with a very interesting account of all its previous history, will be found in the current number of Professor Foster's *Journal of Physiology*. As to the result, the fact of Liebreich's discovery is now left beyond a doubt; but

the empirical formula for this important principle would appear to be $C_{180}H_{302}N_5PO_{35}$ —an alteration from Liebreich's, in all probability owing to the extreme care and the improved methods employed in these late investigations.

CURE OF HYDROPHOBIA IN RUSSIA.—A Russian paper, the *Nedelya*, gives the following curious account of the way in which hydrophobia is cured in Russian villages. A mad dog appeared in a village some time ago, and bit several dogs, fowls, pigs, and two men. The results of these bites are not yet known; but, for the present, the unhappy victims of the accident feel quite happy and safe, having received from the village wizard a miraculous remedy which is said never to fail. This remedy consists of a crust of bread on which a string of unintelligible and incoherent words are written in ink; after each word a cross is traced. They are read over thrice, and the crust is then eaten with profound reverence. If the same wonderful remedy is given to cattle, it is mixed with corn. In vain one of the more sensible inhabitants of the village tried to persuade the sufferers to let the wound be sucked and cauterised, or to apply for aid to the nearest doctor; equally in vain he urged the necessity of killing the dogs to prevent any further accidents. "It is nothing," was the invariable answer; "we have had the bread given us, and that is enough." Strange to say, the same peasants who believed so firmly in the efficacy of the bread, saw two victims of hydrophobia die before their eyes only a short time ago, in spite of the miraculous and infallible remedy, and still believe in it.

A SEANCE AT THE INSTITUTION FOR THE DEAF AND DUMB AT PASSY.—The following is an abstract from an interesting article on the Institution for deaf and dumb patients at Passy. The school is under the direction of M. and Mme. Houdin. The method of teaching consists in making the deaf and dumb speak, and in accustoming them to read the words from the lips of those who speak to them. A boy aged six years, who had been under M. Houdin's care for a year, was the first presented. A series of words were written out on the black-board, which the child read fluently in a distinct and clear voice. He also named all the objects that were shown him. Words were then dictated to him, which he read from the lips and then wrote down on the black-board, very rapidly and correctly for a child of his age. In this way the child reads, writes and uses about 600 words, and will doubtless in time attain a perfect knowledge of the language.

Pupils of three and four years' standing were exhibited next. They read from the lips, spoke and wrote down a dictation taken at random from a book, without making the slightest mistake in spelling. They then read aloud what they had written. There were two young girls among them who circulated freely among the visitors, and answered all questions that were put to them, distinctly and altogether in a very lady-like manner. Another noteworthy point in these children is the animated and happy expression their countenances wear. Their speech is also natural, warm, full of expression and lively, not at all like the automatic, cold, monotonous, almost lifeless mode of speaking, that renders conversation with deaf and dumb individuals so trying to all sensitive and nervous people. M. Houdin explained this, by the fact that the patients were received into his family, where they were treated with every possible care, such as each individual case required. He also always took care not to have merely the organs of speech put into movement as it were, automatically, but to make them merely the agents of the intellect, and the living soul, who alone can impart to the speech warmth, colour, and life.

The next pupil who was presented to the visitors was a youth aged 16 who had become completely deaf at the age of 11, and who would inevitably have lost the faculty of speech if his education had been carried on by signs, as was first attempted. During this time his speech had much deteriorated. At present, however, thanks to M. Houdin's efforts, he had become a highly educated and

intelligent member of society. He answered all the questions that were put to him, and carried on a conversation with one or two persons. Some one having asked him to explain M. Houdin's method, he replied: "What shall I say? All I know is that M. Houdin has taught me to read from his lips, and I see the words as if I heard them." Some of M. Houdin's pupils are artists, and several pictures, &c., were exhibited, which revealed true talent. From time to time the pupils are invited to a *soirée* at his house, when they are the principal guests, and dance for hours without showing the least sign of fatigue.

MEDICAL PRACTICE IN BOSNIA.—An ordinance has been issued by the Government of Bosnia prescribing the condition under which persons may practise medicine, surgery, midwifery, dentistry, and the veterinary art in Bosnia and Herzegovina. All physicians, surgeons, etc., who belong to Bosnia, Herzegovina, or any part of the monarchy, and who have obtained a degree of licence to practise from a University or other authorised institution of the Austro-Hungarian Empire, may practise their profession in Bosnia and Herzegovina. They must, however, first show their diplomas, etc., to the authorities in whose districts they purpose residing, and upon receiving their endorsement they may practise anywhere in the provinces. Military physicians and surgeons are exempted from these formalities. All practitioners are directed to use every endeavour to promote vaccination and re-vaccination among the population.

THE SENSITIVE PLANT UNDER ANÆSTHETICS.—The idea of subjecting this remarkable plant to the action of anæsthetics was natural, and several experiments of the kind are recorded, the plant having been placed in vapours of ether or chloroform. Recently M. Arloing has made some interesting observations of the effects of chloral, chloroform, and ether presented for absorption by the roots. The pots were sprinkled with aqueous solutions of these substances, then covered with care to prevent escape of the vapours. After absorption of chloroform or ether, one notes primary and secondary effects; the former are phenomena of excitation similar to those arising from mechanical irritation, and comparable to those in animals when anæsthetised. They occur successively from the bottom to the top of the stem. In 30 to 60 minutes the common petioles (or leaf stems) straighten and the leaflets separate, beginning from the top of the stem; but the plant is now found to have lost its sensibility. The secondary effects consist of elimination of the anæsthetic. The sensibility often does not return for one and a half or two hours. Chloral does not act anæsthetically on the sensitive plant. These observations afforded M. Arloing an opportunity of ascertaining the velocity of liquids in the stem and branches of plants under strictly physiological conditions, whereas past experiments on the subject have been made with withered or mutilated plants. If the leaves are in a good state, the common petioles bend down suddenly and successively from below upwards in the plant as the absorbed chloroform reaches them. Hence, knowing the dimensions of the plant, the velocity of the chloroformed water in the stem and primary petioles can be easily calculated. Within the stem, the velocity is modified by the state of the tissues and foliage, the temperature, etc.; it was found, in different cases, at the rate of 0.90 metres, 2.22 m., 2.40 m., and 2.76 m. per hour. The velocity increases from the base to the top of the stem in the ratio of 1 to 1.25 or 1.50, and it is $1\frac{1}{2}$ times to twice as great in the petioles as in the stem. The time of absorption by the roots was found to vary from 2 to $6\frac{1}{2}$ minutes.

THE CAUSATION OF SLEEP.—The learned German alienist, Dr. Siemens, concludes that sleep is due to the activity of certain circumscribed parts of the brain, which form an inhibitory centre, and which are situated in the medulla oblongata, near to the convulsive centre. In support of this view, the connection between sleep and epilepsy is alleged. The inhibitory sleep centre stands in

direct antagonism to the cerebral cortex; if the one is in a state of activity the other remains passive; the former can only exercise its function when the cortical substance is either inactive or nearly so. Sleep is much more easily induced in childhood, as the convolutions of the brain are at that time only partially developed. Sleep is also much more frequent and continuous when the cortical substance has degenerated, as in paralytic dementia; when its nutrition is faulty, as in anæmic conditions; also when it is to some extent paralyzed by the action of hypnotics or by excessive cold. On the other hand, no sleep can be obtained when the cortex is in a state of activity, due to strong psychic impressions, excesses, alcoholism, or any form of mental disease. When, owing to some morbid condition, sleep has been absent for a length of time, the products of fatigue must have been generated in the body in large quantities, but still the hyperactivity of the cortical substance prevails and prevents the occurrence of sleep.

WOMEN IN HARVARD MEDICAL SCHOOL.—A meeting of the Board of Overseers of Harvard University was held some time ago to decide as to whether they should accept a bequest of ten thousand dollars on condition that women be allowed admission to the medical school. It was voted to decline this proposition. At a subsequent meeting, however, a resolution was passed asserting that, under suitable restrictions, it would be expedient to allow women to be instructed in the medical school. Harvard is thus put on record both for and against the medical co-education of the sexes.

EXAMINATION AND VERIFICATION OF WEIGHTS AND MEASURES OF PRECISION.—The College of Pharmacy of the City of New York has provided itself with special balances and standard sets of troy and decimal weights, to be used in the examination and verification of decimal, troy, or apothecaries', and all other kinds of weights. The college is ready to simply pronounce on the fact whether certain weights are correct or not, not to make incorrect weights correct. It is a matter of great importance that every dispensing pharmacist has weights which are correct. It is a notorious fact, and one of which pharmacists as well as physicians are aware, that many, if not most, of the cheaper weights sold in trade are unfit to be used as weights of precision by pharmacists or physicians.

HOW WE SQUANDER OUR VITAL RICHES.—The genius of our civilisation in its physiological aspect is to make spendthrifts of us all of our vital riches. It includes no such aim as race improvement. True, some youthful culture of the head and heart is supposed to reach after that object; but it does not. It looks only to immediate success in social distinctions, or to winning in competitive struggles, not to the more remote objects of our improvement as a race. Indeed, the instances in which physical degeneration, by the prevailing injudicious and highly-prized head culture, is not thereby begun, are altogether exceptional. Compare the highly educated son with his father, and a perceptible diminution in the grade of constitutional stamina is nearly always manifest. Continue the process for a generation or two and a progressive deterioration will ensue, until there are only sickly boys to grow up into inviolated manhood. Very few ever think of, and yet fewer ever seek after, the accumulation of vital riches. Only when brought to suffering by poverty of this kind is the mind aroused to any interest in the subject. Prior to the inception of disease, a thoughtless squandering of vital reserve is what our social practices systematically encourage; and when as a debility, disease, and untimely death ensue, these are not regarded as the evidences of a fatal flaw in the existing system of civilisation, but as matters of prevision, which alone concern Providence and the doctors. The constitutional vigour, thus so blindly spent, renders frequent demands upon the highest resources of the healing art urgently necessary. And it must be confessed that in prolonging the life of defective blood there are displayed a skill and care never before equalled.—Dr. J. R. Black in *Popular Science Monthly*.

STRUTTS'

ABSORBENT

COTTON WOOL.

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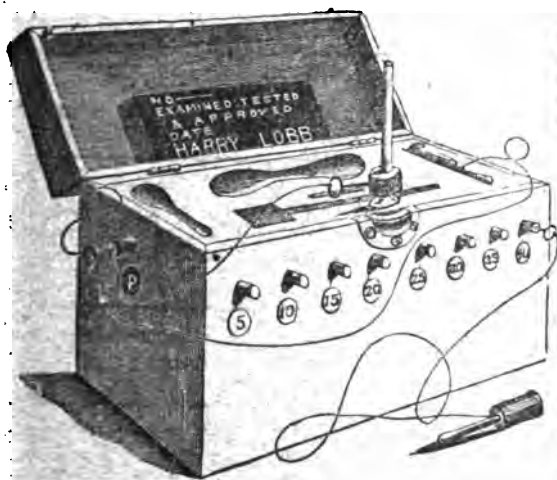
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HUNYADI JÁNOS MINERAL WATER.

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DR. PAUL RICHER ON THE GREAT HYSTERO-EPILEPTIC ATTACK.*

IN this *mémoire*, the precursor of a larger work promised on the same subject, Dr. Richer has marshalled and reduced to order the vast number of facts and observations that have been amassed at the Salpêtrière, under the guidance of M. Charcot, on the hystero-epileptic convulsive attack. For many years, M. Charcot has, with various *collaborateurs*, been patiently and laboriously investigating the causes, the *rationale*, the course, and the treatment of hysteria and hystero-epilepsy, and establishing a correct diagnosis between this latter and true epilepsy. Cases and lectures have been published from time to time in the *Progrès Médical* and other journals, but the work before us is the first that has attempted to give a systematic and analytical account of the great hystero-epileptic attack in its typical form, and in all its varieties. The *mémoire* is full of unusual interest; it is written in a clear elegant style, is interspersed with cases drawn, for the most part, from personal observation in the wards of the Salpêtrière, but also from other sources, and illustrated by numerous etchings from the pen of M. Richer. These, in some cases highly finished, represent the patient in all the varying phases of a great attack; the *bizarre* position of general or partial contraction, and the emotional attitudes and expressions of the third period being given with artistic skill and scientific fidelity.

The great hystero-epileptic attack is divided into four periods: 1. The epileptiform; 2. The period of contortions and extensive movements; 3. The period of emotional attitudes; 4. The period of delirium. The attack does not, however, commence with the unexpected onset of epileptiform symptoms. Before an attack, the patient has some time, even perhaps a week before, well pronounced prodromata, which forewarn both her and the attendants what is to be expected. The patient becomes melancholy, *distracte*, and morbid; she is suspicious, jealous, and irritable; her melancholy, however, often alternating with fits of silly gaiety and causeless laughter. Her activity is so restless and purposeless, that it finds vent in acts of destruction, which, however, unlike the destructive mania of the epileptic, is not dangerous to others. She is haunted by hallucinations, chiefly those of sight and hearing. The hallucinations are generally apparitions of cats, dogs, and fabulous animals, or of human beings, or of stars, colours, etc. These visions always appear to the patient on the hemianæsthetic side; if they appear to move, they pass from the hemianæsthetic to the normal side. This rule is invariable, and was first observed by M. Charcot. The hallucinations of hearing are principally those of voices, sounds of singing, etc. The patient loses appetite, and taste is perverted, and she is tormented by nausea, vomiting, borborygma, and tympanitis. Hiccup, loss of voice,

and gaping, are also well known prodromata. Palpitation of the heart may also be extremely violent, and other vaso-motor troubles may be present. Amyosthenia is a constant symptom of hystero-epilepsy; it always accompanies hysteria, appearing or disappearing with it. At the approach of an attack, the muscular weakness on the affected side becomes more marked. Often the patient is unable to use the anæsthetic arm, and the dynamometer shows greatly diminished power; the walk becomes uncertain; there are tremblings, cramps, and startings (*secousses*). These startings are similar to those seen in true epilepsy. They consist of a sudden tetanisation of a muscular group, ceasing as quickly as produced, and causing a rapid movement of the levers to which the muscles are attached. Permanent contraction (*contracture*) is frequently also a forewarning symptom; it is often partial, occurs suddenly, passing from one limb to the other, ceases and re-occurs, and gradually becomes general in the four limbs only a few moments before the attack. Analgesia, anæsthesia, or hemianæsthesia are symptoms of hystero-epilepsy existing altogether apart from attacks, together with deafness, want of taste and smell, achromatopsy, dyschromatopsy, and amblyopia, on the affected side; but these become more marked before an attack, and often the presence of hyperæsthetic zones is observed. There are, beside these general prodromata, certain painful phenomena, which constitute the true *aura hysterica*. Hysterics have always a fixed pain, more or less intense, in the abdomen, which M. Charcot, together with Schützenberger, and contrary to Briquet, assigns to the ovary. He considers it to be hyperæsthesia of the ovary (*ovarie*). Sometimes the pain is so acute, that the patient cannot endure the least touch, not even the weight of the bed-clothes; it is always accompanied with a certain degree of swelling of the abdomen. This concurrence of symptoms, M. Charcot says, is called in England "spurious peritonitis". At other times, the ovarian hyperæsthesia is only discovered by pressure. In these cases the skin is anæsthetic; the skin and muscles may be pinched without pain, thus proving that the seat of the pain is not in the skin or the muscles; in fact, the hand must be pushed deep into the abdomen before the painful spot is reached. If a straight line be drawn from the anterior and superior spinous process of the ilium to the perpendicular line which limits the epigastrium laterally, at the intersection of the two lines the painful spot is situated. By deep exploration of this spot, the curved margin of the upper straight of the pelvis is felt; and towards the centre of this ridge the hand perceives most frequently a small ovoid body, lying transversely, which, being pressed against the bony wall, slips from under the fingers. When tumefied, it may be as large as a small egg. This is the initial focus of the aura. If pressed upon, an ordinary pain is not provoked; but the complex sensations, which constitute the *aura hysterica*,—pain radiating to the epigastrium, accompanied often with nausea and vomiting; if the pressure be continued, there follow palpitation of the heart, globulus hystericus, whistling noises in the ear of the side affected, and a sensation of blows with a hammer on the temple, and if kept up, dimness of sight, loss of consciousness, and finally a convulsive attack is initiated. Before an attack, the ovarian pain becomes much more acute, and is immediately followed by the phenomena described above.

In many, in probably all, hysterics, there are cer-

* *Étude Descriptive de la Grande Attaque Hystérique ou Attaque Hystéro-Epileptique et de ses Principales Variétés.* Par le Dr. Paul Richer. (Adrien Delahaye, Plâce de l'Ecole de Médecine, Paris, 1879.)

tain hyperæsthetic spots which if touched provoke convulsive attacks. In one patient in the Salpêtrière, this spot was an hyperæsthetic zone between the two scapulæ; this is a frequent area. In another, if she were touched on both sides simultaneously at a spot situated below and outside the mammæ, hystero-epileptic convulsions were immediately provoked. In others it was situated at the top of the head, over the ovary, etc. These spots are called the hystero-genic zones or points.



Fig. 1.

An attack once inaugurated commences by epileptiform symptoms similar to true epilepsy, but differing entirely from this, by the presence of the fact that at any moment of the epileptiform period the convulsions can be immediately arrested and the patient restored to consciousness by firm pressure on the ovary, or by the shock of an electric current. These establish the diagnosis at once. To render observations of this period still more exact, M. Richer and his friend, M. Regnard, applied the graphic method of M. Marey to the study of the muscular contractions. One of the myographic tracings is figured on the opposite column (fig. 1).

From it, and from many more given in the *mémoire*, it will be seen that the epileptiform period of an hystero-epileptic attack is divided into three periods, as in true epilepsy, the tonic, the clonic, and that of resolution. The tonic period is ushered in by a few small convulsive movements of the eyelids or abdomen, then suddenly occur the three phenomena which mark the onset of the epileptiform period, namely, loss of consciousness, arrest of the respiration, and muscular tetanisation. If the attack be provoked by some strong emotion, or by touching the hystero-genic zones, the patient falls immediately and there are no premonitory convulsive movements. During the epileptiform phase the loss of consciousness is absolute; the patient may be awakened at any moment by pressure on the ovary and interrogated, but her answer is invariably the same—she knows nothing, remembers nothing, has seen nothing. The initial cry of the epileptic is wanting. Muscular tetanisation does not arrive at its maximum instantaneously; before tetanic immobility is reached, there are certain extensive movements made by the limbs. This phase is therefore divided into two: *a*. The phase of tonic convulsion; *b*. The phase of tetanic immobility. The movements in the tonic period are extensive, often those of circumstriction, flexion and extension; they are performed slowly three or four times, and are always the same for the same patient. The face, at first pale, becomes soon congested, the forehead wrinkles, the pupils, generally dilated, are turned upwards behind the upper eyelid, the face is distorted, respiration ceases, and the neck swells. The condition of tetanic immobility succeeds. The attitudes assumed are various, but that of complete extension and dorsal decubitus is the most general, with the arms extended, adducted, and rotated outwards, the wrist flexed, the fist closed, sometimes the two arms touch by their posterior surfaces over the middle of the body. The legs are also in extension, the knees pressed closely against one another, the foot in the position of equinus varus or valgus; the trunk, stiff as a bar of iron, rests on the side or back, or opisthotonos is present. The face is cyanosed, the veins project, and foam appears on the lips. Though this is the most common attitude, it is by no means the invariable one; the body in the pose of the arc of a circle, the head and feet alone resting on the bed, or in that of the crucifixion, are not uncommon (fig. 2), and sometimes the positions are very *bizarre* and unexpected. The clonic phase begins by a few quick and slight movements of the tetanised limbs. The movements become rapidly generalised, and the whole body and face are convulsively agitated. Frequently the movements predominate on one side, and respiration recommences painfully. The respiratory movements of the thorax do not correspond with those of the abdomen. There is much foam in the mouth.

Gradually the convulsive movements become less frequent, and the patient passes into the stage of complete resolution. The respiration is stertorous, generally the position is that of dorsal decubitus, but sometimes some contraction remaining, the body retains an unusual position.

The sleep may be interrupted from time to time by solitary muscular shocks. The period of resolution may be very short, or may be absent altogether. The duration of the first two periods does not generally exceed 60 seconds; the tonic movements occupying 15 seconds, and the tetanic immobility another 15 seconds. This is a description of a typical attack in the epileptiform period. There may be, however, great variations. The tonic convulsions may be omitted, and tetanic immobility be established at once; sometimes, again, it is the tetanic immobility that is wanting. The clonic convulsions may occupy the greater part of the epileptoid period, or may be limited to a few rapid movements. Resolution may be incomplete, or may not occur at all.

After a more or less lengthened period of repose, the patient passes into the second period, that of contortions and large movements, to which M. Charcot has given the picturesque name of the period of *Clownism*, or rather, *Harlequinism*. This period is divided into two phases: 1. That of contortions; 2. That of extensive movements. In the first, the body and limbs are contorted into every position that is unnatural, the face often grimacing horribly. The muscles are perfectly rigid, so that the patient may be moved like a bar of iron. These strange attitudes may be retained

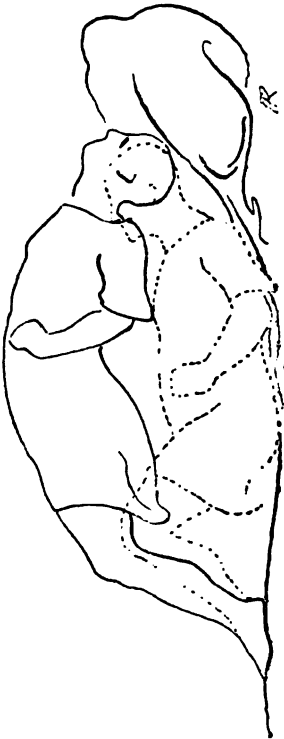


Fig. 2.

without change for some minutes. Respiration is irregular. There is no foam, and no turgescence of the face. In the period of large movements, the

muscles become relaxed. The patient sits up in bed and violently and rapidly throws her head back on to the pillow; or else, raising her body into the position of an arc of a circle, lets it fall again on to the bed; or the legs are thrown with such violence into the air that the whole body is raised from the bed (fig. 3). These movements are repeated 15 or 20 times in succession without any evidence of fatigue. They require such agility and quickness, and such an enormous muscular power, that in the middle ages they were thought to be beyond the resources of human nature, and the idea of a supernatural intervention was called in to account for them. The same movements are always performed by the same patients. Sometimes this period commences with a shrill cry, like the scream of a locomotive. In some patients, a sort of struggle or fury takes the place of the rhythmic movements, and the patient tries to tear her face and her hair, strikes her chest with her fist with a violence that is hurtful, howls like a wild beast, tears her clothes to pieces, and tries to bite her attendants, her head and body being agitated by rapid and violent movements. In this second period there is not absolute loss of consciousness. The patient is more or less under the dominion of some horrible hallucination. If awoke by pressure on the ovary, she expresses great relief at being saved from some great dominating terror. Without any intermission, the patient now passes into the third period, or that of emotional attitudes. Hallucinations, the most vivid and dramatic, transport the patient into the world of imagination, and her striking attitudes and spoken words indicate exactly the emotion she is feeling, whether that of fear, terror, joy, or sadness. The scenes that are being represented to her mind with such vividness are generally passages in her past life, intermixed more or less with scenes of pure imagination. Generally the scenes succeed in exactly the same order—that is, in the order in which they actually occurred, but they may be more or less confused and inverted; the same gestures and attitudes, accompanied with the same words, occur invariably in the same patient. These seem stereotyped on her brain, and, on examination, it will be found that they are reproductions of the scenes of violent emotion that presided over the development of the hystero-epilepsy. Firm pressure on the ovary instantly awakes the patient, and, if interrogated at once, she will give an account of the scene in which she is in imagination taking part, and the emotion she is feeling, which accurately agrees with and explains the attitude and gesture observed at that moment.

The attack is now virtually over, and the patient passes into a state of incoherent delirium, mixed with hallucinations, and accompanied with some movements. The delirium is often melancholy, sometimes, even, rises to despair; or, it may be gay, furious, or obscene. The hallucinations are generally those of rats, snakes, and toads on the bedclothes, and of which the greatest alarm and horror is expressed; or, it may be, of persons known in the past. When she awakes, she remembers the hallucinations of this fourth semi-conscious period, and has a firm belief in their reality. So strong is this assurance, that it makes it easy to understand how, in the days of witchcraft and sorcery, women stood self-accused of crimes for which they would rather suffer than repudiate, and which were but the hallucinations of an hystero-epileptic attack.

There is generally some contraction remaining

after the attack. It may be general, and the attitudes assumed may be most unnatural. In these cases of general contraction there is often a kind of



Fig. 3.

slow tetanisation of the muscles, and the patient having recovered consciousness suffers horribly. The contraction of the abdominal muscles renders compression of the ovary very difficult, but, if possible to effect it, the contraction ceases immediately, and recommences directly the pressure is withdrawn. Electricity has no influence on these contractions. The contractions may be, however, only partial, attacking one limb or member, and are then generally not painful. It may then last for months or even years. Contraction of the œsophagus or of the sphincter urethræ are not infrequent results of an attack; sometimes, on the other hand, the sequela may be a paralysis or paresis of certain muscles, such as paralysis of the sphincter urethræ, causing incontinence of urine. The period of delirium may last from a few hours to some days.

This is a typical hystero-epileptic attack, and the four periods here delineated may be traced more or less completely in all attacks of hystero-epilepsy. An attack, however, rarely occurs alone. There are generally a series, constituting what is called an *Etat de mal hystéro-épileptique*. A series may be composed of from 20 to 100 attacks. This state, with only a few hours' intermission, in which the patient takes food, may last from a fortnight to a month; nevertheless the temperature does not rise, and the general condition of the patient causes no anxiety. At the end of the series the patient is fatigued, but the fatigue is not in proportion to the enormous expenditure of muscular force, and, in a few days, she is in her usual condition of health.

Dr. Richer is anxious to show that hysteria major, as described above, is not peculiar to the patients of the Salpêtrière, but that the same disease, exhibiting exactly the same phases in its attacks, has been observed and recorded by Dr. Inglis at Edinburgh, Dr. Leedesdorf at Vienna, and Dr. Pascal at Passy; and the cases of private patients coming from Columbia, Constantinople, New York, and Moscow, are given at length, showing the identity of the attacks with those seen at the Salpêtrière. The descriptions also given by ancient writers prove that, in the epidemics of the middle

ages, the attacks ran the same course; the violent movements of the second period being, however, in that superstitious age, assigned to superhuman power; and the period of passionate attitudes represented in the devotees by ecstatic and beatific expression and attitudes, and the utterance of fervid and religious sentiments, seemed to the superstitious spectators to be the result of a divine inspiration.

Dr. Richer supports the opinion that ordinary hysteria, or hysteria minor, is but hysteria major in miniature, and that hystero-epilepsy is nothing more than the most intense form of hysteria.

M. Charcot allows that hystero-epilepsy may be modified—

a. By the extension or predominance of one period over another, the others being reduced to a minimum, or effaced altogether. Thus may be produced: 1. The epileptiform attack; 2. The demoniacal attack; 3. The ecstatic attack; 4. The delirious attack.

b. By the intermixture of foreign elements on the fundamental constitution of the attack, as somnambulism, lethargic sleep, and catalepsy.

1. In the epileptiform attack, the first or epileptiform period is repeated again and again in its entirety, without the second period being ever reached. Fifteen or twenty attacks may succeed each other without intermission. The patient being in a comatose condition, true epilepsy is exactly imitated, with the exception that the patient may be awake at any moment by pressure on the ovary, or by an electric shock. The epileptiform attack may be, however, incomplete, consisting of a series of rapid muscular contractions or shocks, with more or less loss of consciousness and loss of sight, constituting what is called *commotion épiléptoïde*; or it may consist of a series of visceral spasms producing retching and nausea.

2. In the demoniacal attack, the epileptiform period may not be typical, but it is marked from the onset by the violence of the movements. In the second period the contortions and movements are so violent and frightful that they defy description, and are truly demoniacal. The period of passionate attitudes is missed. In the fourth period there are most painful cramps in the limbs, which quickly restore the patient to her senses. Her sufferings are sometimes terrible even to witness. The patients well know the difference between these attacks and the ordinary ones, and they call them their writhings (*tortillements*). They know by the severity of the aura which to expect. They assert they are conscious during nearly the whole time of intense pain.

The ecstatic attack may be produced artificially by the inhalation of ether. The first two periods are passed over, and the patient enters at once into the period of emotional attitudes. The plastic poses last a long time without changing, sometimes even half an hour. If the attack occurs spontaneously, the attitudes are from time to time interrupted by some slight epileptiform symptom. "In this state," says Briquet, "the patient seems capable of arriving at a maximum of intellectual power, as in the convulsive period at a maximum of muscular power." These ecstatic attacks were what distinguished the convulsionists of St. Médard. The attitude of crucifixion retained immovably for a long time is a favourite one.

In the delirious attack, the delirium may reach the stage of mania, or what is frequent, it may consist of discourses, often of an exalted, moral, and

religious nature, or in the interminable repetition of songs. A few epileptiform symptoms ally it to the hystero-epileptic type.

In M. Charcot's studies at the Salpêtrière on Mesmerism, Catalepsy, and Somnambulism many new and interesting facts have been observed, and the subject, rescued from the hands of charlatans, has been subjected by him to strict scientific observation, in the hope that some of the laws that govern mental phenomena may be elucidated. Many of these observations are given in the work before us. We have space to give only a slight delineation of these cases, and we must refer our readers to M. Richer's interesting *mémoire* for longer details. The following is a typical and remarkable case. A patient is placed before a bright light, and in a few moments, with her eyes fixed on the light as if fascinated, she becomes cataleptic, the limbs and body placed in any position retain it for an indefinite period; anæsthesia is complete. If the light be extinguished quickly, or be hidden, the patient falls immediately into a condition of mesmeric sleep, or lethargy, as called by M. Charcot. If now the skin be touched, the muscles underneath immediately contract, and remain contracted until their antagonists are acted upon in the same manner. The contraction is as perfect and as isolated as if produced by electricity. If a nerve, as the facial, be pressed upon, all the muscles enervated by that nerve contract. This condition M. Charcot calls that of "muscular hyperexcitability". If the patient be again rendered cataleptic, and instead of hiding the light, one only of the patient's eyes be closed, the half of the body on that side falls into a condition of lethargic sleep and muscular hyperexcitability, the other half, on which side the eye is open, remaining cataleptic. These changes may be effected as rapidly and as frequently as one may desire. The same effects may also be produced by the influence of the vibration of a large diapason; the cataleptic condition being induced by the vibrations, the lethargic by their sudden cessation. Some patients also may be similarly influenced by the sound of a gong. The case of one patient is peculiar, showing how these hysterical women can be made to exhibit certain conditions or phenomena with the same infallible regularity as musical boxes playing certain fixed tunes. Alph. B. had two hysterogenic spots, one on the top of her head, and the other on the spine between the shoulders. Pressure on the latter produced a convulsive hystero-epileptic attack; pressure on the vertex was extremely painful, and produced a kind of epileptic vertigo, with some contraction. Consciousness was, however, soon recovered. Looking fixedly at this patient, threw her into a lethargic sleep, in which state muscular hyperexcitability existed, and catalepsy could be induced by raising the eyelids. If, then, the hysterogenic spot on the head were pressed, a slight epileptiform attack ensued, the limbs became tetanised, and the head extended. This tetanisation could be removed by gentle friction of the muscles. The patient was now in a condition totally different from the previous one; muscular contraction could not be excited by touch, nor could catalepsy be induced by raising the eyelids; somnambulism was, however, more complete, and her acts more perfect. If, when in this second state, the globes of the eyes were pressed upon, the patient uttered a deep sigh, and passed immediately back again into her former condition. Thus, by pressure on the vertex or on the eyeballs, one or other condition might be produced at will.

In a convulsive attack, pressure on the cranial hysterogenic spot would in this patient suddenly arrest the convulsions and throw her into a state of sleep.

Catalepsy may be substituted for one or more of the periods of an hystero-epileptic attack. Lethargy, or mesmeric sleep, may also in rare cases succeed the epileptiform seizure, and constitute the whole of the hysteric attack. In these cases, the sleep may occur for twenty-four hours or even longer. It may sometimes be accompanied by a certain amount of contraction, or be complicated by cataleptic rigidity, which, though not so marked as in true or induced catalepsy, is yet evident. On awakening, the patient can generally give a distinct account of a long, dramatic dream. Spontaneous somnambulism differs from induced somnambulism in being less complete; it is generally allied to some neurosis, as hysteria, and it may be mixed with, or follow, a convulsive attack, or may replace one or other of the periods of a great attack. Cataleptic and somnambulant conditions may succeed each other without intermission. Numerous and interesting cases are given in the text illustrating all these various phases of hysteria.

Treatment.—We now turn with great interest to the little chapter at the end of the volume on treatment. Have these long and interesting researches resulted in methods of cure or of palliation of this most distressing malady? The knowledge of the fact that pressure on the ovary will not only arrest a convulsive attack when at its height, but also prevent its arrival when the patient knows, by the prodromata, that it is imminent, is the most useful outcome of this investigation. This fact was not unknown to the convulsionists of the middle ages, and Carré de Montgeron states that violent blows in the abdomen were given to stay the convulsions. It was, however, forgotten till M. Charcot made of it a classic means of treatment. To be able to keep up the pressure for a considerable length of time, M. Poirier has invented an ingenious modification of an abdominal *tourniquet*. By its means direct and limited pressure on the hyperæsthetic ovary or ovaries can be kept up constantly for an indefinite period. The instrument is easily adjusted, and the patients can manage it themselves, increasing or diminishing the pressure, as they know by their own sensations they are more or less menaced. It is absolutely painless, and may be worn consecutively for forty-eight hours, without any bad consequences whatever. As long as the pressure is exerted, no convulsive attack occurs, and any attack once commenced may be instantly cut short by the *tourniquet* being applied. The hysterogenic spots do not exist whilst pressure is kept up, but return directly it is relaxed. We have frequently seen in the wards of M. Charcot a patient lying quietly and happily in bed, encircled by the ovarian compressor, who, were it not for the pressure it exerts on the ovary, would be the prey of a series of violent hystero-epileptic attacks. This fact may be forcibly demonstrated by removing the instrument, when instantly the convulsive attack commences; but it is as certainly and speedily arrested by the pressure being re-applied. Not all patients are equally sensitive to ovarian pressure, and in some rare cases it does not succeed at all. It will be remembered, that pressure on the ovary in a patient not in a convulsive condition is capable of producing the *aura hysterica*, and even a convulsive attack. It has also been found that other means provocative of an attack are, when an attack is fully established, capable of giving relief. These are more

particularly the inhalation of ether and chloroform, and pressure on the hysterogenic spots. Ice on the region of the ovary, will, if applied when the prodromata are first perceived, diminish the intensity of the attack, and perhaps prevent the convulsions altogether. The use of the continuous current has been found to be very valuable as a palliative. The continuous application of a current of from 5 to 10 elements of Trouvé's pile will not arrest the attack, but will diminish its intensity, and the series will be fewer in number; a current of from 10 to 15 elements will cut short the convulsions, and the patient falls into the delirious condition of the fourth period; in some cases, however, the most violent attack can be completely arrested by passing a current of from 40 to 80 elements through the head, and suddenly reversing the current. The patient awakes as if astonished, puts her hand to her head, and becomes perfectly conscious. M. Bourneville has made, at the Salpêtrière, a great number of observations on the influence of nitrite of amyl, and he has conclusively demonstrated that its administration will immediately arrest the convulsive attacks, and will, moreover, diminish their number.

ALICE M. HART.

ON THE RADICAL CURE OF HERNIA BY THE ANTISEPTIC USE OF THE CARBOLISED CATGUT LIGATURE.

IN the *Transactions* of the American Medical Association of 1878, is printed a paper by Dr. Henry O. Marey of Cambridge, Mass., "On the Radical Cure of Hernia by the Antiseptic use of the Carbolised Catgut Ligature." The author gives the particulars of three cases of inguinal hernia operated on by this method; curiously enough, all the cases occurred in women above the age of 45. The third case was operated on on both sides, the age of the patient being as much as 70 years. All the cases were operated on when strangulated, except that on the right side of the aged patient, who was so satisfied with the result of the operation on the strangulated side that she wished for and obtained the advantages of the proceeding on the non-strangulated side also. All the patients were operated on under the carbolic spray, with Listerian precautions, and all survived the operations. The results were satisfactory in curing the rupture, except in the right side of the last, where there was a slight return, easily kept in order by a truss. The subsequent sudden death of the patient from aneurism of the internal carotid enabled the surgeon to ascertain the condition of the parts rather more than two months after the last operation. The details of this very interesting *post mortem* examination are so poor and meagre that no instruction can be obtained from them beyond the mere *ipse dixit* of the author himself. The condition of the left, or strangulated side, is not so much as hinted at. From the fact that the irreducible omentum on that side was tied up and cut off at the time of the operation, it is to be presumed that the cure on that side was rendered pretty certain by adhesion to the sides of the ring. On the right or larger hernia, the result of the operation seems to have been a thickening and diminution of the hernial aperture by two-thirds.

The paper illustrates in a marked way the promptitude and daring character which we in this country

usually attribute to American surgery. The tolerably confident conclusions of the author as to the efficacy of catgut sutures in the radical cure of hernia are founded upon the results of about half-a-dozen cases, of which three only are mentioned as having been cured. This hardihood of assertion, in the face of the large experience which has now been gathered together in this country and elsewhere, is linked with much speculative reasoning, and a somewhat sketchy, discursive, and mixed-up historical review, first, of the use of carbolised catgut in the experience of Professor Lister and others, and, secondly, of the various ways of attempting the cure of a disease which has exercised the best surgical intellects of this and last century. The radical cure of rupture has the appearance of a somewhat slender peg whereupon to display the enthusiastic feelings of a young man fresh from Europe and, to use his own words, an ardent admirer of Professor Lister. There are copious quotations from the master's words respecting the proper way of preparing carbolised catgut by steeping the gut in an emulsion of one part of the crystallised acid dissolved in five per cent. of water mixed with five parts of olive or linseed oil. The author has found no catgut prepared in America at all equal to that prepared by Professor Lister himself.

He adopts the theory given by Lister, that in the ligature of the deeper structures, such as arteries and hernial rings, the catgut becomes itself transformed into living tissue, and not simply moulded by that tissue and then absorbed, but, as he expresses it, "is changed particle by particle, being in this way not revitalised, but replaced by living tissue". To others it may seem difficult to understand how a substance of this kind can be "replaced by living tissue" and "changed particle by particle" with being absorbed somehow, and the probability is inevitable that we have here an instance of the familiar ambiguity arising from a confusion of terms covering an uncertainty of meaning. The instances adduced as illustrative of this meaning, viz., the successful transplantation of skin, epithelium, cockspurs and teeth, cannot surely be intended by a physiologist to be cases of similar "change of particle by particle", and "replacement by living tissue". In his quotation of Professor Lister's remarks upon this change that "it might have been anticipated that the ligatures of peritonæum and catgut placed on the calf's carotid would, after the expiration of a month, be found *transformed* into bands of living tissue. Such was in truth the case, as was apparent on closer examination"—we can scarcely find what we might reasonably have looked for, viz., a proof, as distinguished from a simple assertion dependent for its very meaning upon the value of the word *transformed*. If our author accepts the word which he quotes as meaning a substitution of living for dead tissue, this must necessarily be accomplished by *absorption* and reproduction. And this would appear to be probable from his mention of the observations of Fleming (*Lancet*, 1878) on the behaviour of carbolised catgut inserted among the living tissues, to the effect that the result "may be described as a *cast* of the catgut in granulated tissue freely supplied with blood-vessels". But if he means what we might reasonably have supposed that he means, from his application of the experiments on transplantation, mentioned above, as well as from his curious assertion that the catgut is really *not absorbed* at all, then our verdict must be that the absurdity of his conclusion is not removed but

rather increased by his explanation, that the carbolic catgut is not, in his opinion, *revitalised*, but *replaced*. How it can be replaced without being previously removed by absorption it is puzzling to understand. Of the two meanings just given, the former is easy to be understood on the lines already laid down and travelled upon by modern surgeons, while the latter would be considered by a vast majority of them as fully deserving of the epithet we have applied to it.

The author seems to recognise (though without distinct acknowledgment) the necessity, in order to insure a real radical cure of hernia, for closing not only the hernial sac, but also the dilatation or opening in the musculo-tendinous walls. This necessity, which constitutes the basis as well as the originality of Wood's method of operating for the radical cure, is considered by that surgeon to be best provided for by restoring the valve-like action of the inguinal opening, where that is possible. He has also for many years demonstrated, the practicability and safety of operating in certain cases for the radical cure, at the same time as for the relief, of strangulation. In this the author seems to have followed his lead.

In his Address in Surgery at the meeting of the British Medical Association in King's College, London, Wood gave several successful instances of this practice, and exhibited the patients on the occasion. In the medical periodicals there have appeared from time to time since then reports of cases in which the sac of the hernia and sometimes omentum have been entirely removed, after being stitched up at the neck with catgut, while the musculo-tendinous canal has itself been closed afterwards by the wire suture.

Thus, a double barrier is provided against any return of the hernia subsequently; and the history of the radical cure of hernia decidedly shows that both these precautions are required in some cases of rupture.

Now it is quite proved by the results of repeated trials that, in order to keep together the walls of the hernia canal for a length of time sufficient to cause their union, and to resist the tension which must be from time to time put upon them by coughing and holding the breath, etc., some strong, thick and resisting material must be used. Those who have patiently observed the behaviour of catgut-sutures, however efficiently prepared, will acknowledge that they have not by any means sufficient staying power for this purpose. They become absorbed by the action of the living tissues, and disappear prematurely, especially if under tension. The infiltration process through which they become invaded by living structure and *transformed*, cannot be effected without yielding or giving during the change. And this is just what renders catgut inapplicable for the purpose.

The induration which was observed by the author in his cases occurs under almost any method which has been used for the radical cure; Gerdy's method, Wotzer's method, and Velpeau's method of injecting the sac, all produced a temporary induration. Repeated experiences have shown that this is not sufficiently permanent or resisting to produce a radical cure.

That the author has not yet developed in his experience of this operation as far as that condition of dubiety which inevitably awaits him if he pursues his studies in this direction, is shown by his mention in terms of seriousness, if not of respect, of a revival

of Velpeau's discarded plan of injecting the hernia, with the characteristic variation of the use of a vegetable decoction, viz., of oak bark. This plan, which was long used as a secret and important nostrum by Heaton of Boston, U. S., was at length incautiously published by him (after the example, we suppose, of Dr. Fell's secret nostrum for the cure of cancer), and, on being tried in the light of professional observation at a public hospital, met with a like fate.

The paper concludes with a quotation from Sir James Paget's lectures in the *British Medical Journal* for 1872 upon the advantages of operating for strangulated hernia without opening the sac. Any advantages which may be thus obtained apply apparently to two only of the three cases given in the author's paper; for, in the worst case of these three, viz., that in the old lady of 70, not only was the sac opened, but the omentum also was cut away, and yet she recovered even more favourably and quickly than one at least of the other two, the wound healing throughout by the first intention, and the temperature never exceeding 99° Fahr. And similar successful cases have not uncommonly occurred in this country also, under simple conditions of cleanliness and hygiene.

JOHN WOOD, F.R.S.

GOODELL ON FOUR CASES OF OOPHORECTOMY FOR SOME OF THE DISORDERS OF MENSTRUAL LIFE.

DR. GOODELL relates (*Boston Medical and Surgical Journal*, p. 25) four cases of oophorectomy for some of the disorders of menstrual life. The first was that of a maiden lady, aged 33, the subject of a large and kidney-shaped fibroid tumour of the uterus, plainly subperitoneal, and not amenable to treatment by the vagina. She was never wholly free from pain, and suffered for a week before each monthly period unbearable pain, with profuse menstrual flux. Three weeks out of every four were virtually spent in bed. The operation of oophorectomy was performed with immediately successful results. She has lost all pains and aches; the menses have never returned, but their absence has not made any appreciable effect upon her appearance or upon her character.

The second case was that of a maiden lady of 27, suffering severe agony for a week before and after menstruation, apparently arising from turgidity and neuralgia of the ovaries, the uterus showing no lesion, and the pains radiating through each ovarian lesion. She had violent headache, great emaciation (weighing 67 lbs. only), and exhibited mental disturbance which threatened insanity. After a long course of treatment, including absolute repose for a lengthened period, it was decided to perform oophorectomy, which was done successfully per vaginam. Menstruation has not returned, and her health is excellent. No change whatever has manifested itself, either in her appearance, voice, or character.

Case three was that of a married lady, aged 37, the mother of three children, the youngest aged 10. After her last delivery she never conceived again, and began to suffer from agonising monthly pelvic pains, which made her bedridden and an opium-eater. She was reduced to skin and bone. It was a typical case of neuralgia of the ovaries, and by far the worst case of pernicious menstruation that Dr. Goodell had ever seen. After failure by every other

form of treatment, rest, milk diet, massage, electricity, spaying was performed. It was followed by limited peritonitis, to which the patient, having no strength to resist, succumbed on the fourth day.

Case four, that of a married lady, aged 38, the subject of hallucinations before the appearance of her menses and after them, who had been an inmate of several insane asylums, without benefit, but of whom two distinguished alienists believed that, with the change of life, reason would return. The uterus was congested and hypertrophied, and the ovarian regions were exquisitely tender. Under the influence of the opinion of the experts who had had her in charge, Dr. Goodell consented to remove the ovaries with the view of bringing on artificial menopause. This was done by a vaginal incision. She had a good recovery; but no improvement has occurred in her mental condition. Dr. Goodell continues: "How shall the operation of spaying be performed? By the abdominal incision the ovaries can always be removed; by the vaginal one, very generally. Each operation has its advocates, but I am a warm upholder of the latter, because it is the safer. I have elsewhere collected and tabulated fifty-one cases of spaying, with fifteen deaths. In thirty-one cases the abdominal incision was employed, and was followed by eleven deaths; while out of twenty cases in which the ovaries were taken away through a vaginal incision, only four died. This smaller rate of mortality is attributable to the greatly lessened exposure of the peritoneum, and to the dependent drainage opening. By this operation, however, the ovaries cannot always be caught and removed. They may be carried up by a large fibroid tumour and lie beyond the reach of the finger, or they may be, as Sims and Thomas found them, so bound down by firm adhesions as not to be dislodged. In my four cases I had no difficulty whatever in reaching the ovaries and in removing them per vaginam. So impressed, indeed, am I with the greater safety of this mode of operation that I shall always attempt it. Should it fail, the abdomen can afterwards be opened, and the abandoned vaginal incision be utilized, if needful, as a drainage opening. The abdominal operation should be performed under the spray, and every detail of Lister's should be scrupulously carried out. Of the great value of antiseptic surgery in cases needing the exposure of the peritoneal cavity, there can be no question whatever. The wonderful successes of Keith and Thornton amply prove it. Not quite three weeks ago I removed, from a lady sent to me by Dr. A. H. Sheaffer, of Lewistown, a large fibro-cystic tumour of the womb through an incision extending from near the ensiform cartilage to the symphysis pubis, and needing twenty-three sutures to close. The tumour had no stalk, but springing directly from the womb had to be enucleated from its peritoneal capsule. Yet, thanks to the spray, the patient recovered without a single bad symptom, and with less constitutional disturbance than that which usually follows the removal of a small surface growth like an adipose tumour. In the vaginal operation I have not yet tried the spray, but I intend to do so, although Sims found that the constricting action of the carbolic acid incommensurably narrowed the calibre of the vagina.

"If the abdominal incision be performed, the incision should extend from near the navel to a point as low down as is compatible with the safety of the bladder, and then each stalk should be tied with gut, and dropped within the cavity. In the vaginal

operation, the patient should be placed on her back, and not on her side. I am satisfied that it was the lateral posture that helped to kill my third patient, for as soon as the peritoneum was opened the air rushed out and in during every inspiration and expiration—an untoward circumstance which cannot happen in the dorsal posture. A duck-bill speculum is introduced, and the perineum pulled downwards. The post-cervical mucous membrane is next caught up by a uterine tenaculum, and it and the underlying peritoneum are snipped open for about an inch with a pair of scissors, of which I have found Kuchenmeister's to be the best. The index finger of the left hand is then passed in, the wound pushed down from above by the right hand, and each ovary brought down to the incision by the finger hooked into the sling made by the oviduct. The ovary is now seized by a fenestrated forceps and brought into the vagina. The stalk is transfixed by passing a needle, armed with a double gut thread, between the ovarian ligament and the oviduct, and each half securely tied. The ovary is then removed, the ligatures cut off at the knot, and the stumps returned into the pelvic cavity. In order to hinder the chance of the protrusion of a bowel-loop, I have, in three instances, closed the vaginal opening with one suture, and that either of silver or of gut; but in the case with the incision left unclosed no protrusion took place. The hæmorrhage during the operation was in only one of my cases quite free, but it was venous, and needed no ligature.

"There is one drawback to this operation. For some reason the removal of both ovaries does not always bring about the cessation of the menses. From a careful collection of all the published cases of double ovariectomy occurring during menstrual life, I find that out of one hundred and thirty-two cases there were fifteen in which regular monthly fluxes kept on, and nine in which such fluxes were either irregular or lessened in amount. The cause of this unexpected continuance of the menses has been attributed by Kœberle to a portion of ovarian stroma unwittingly left behind, but I think it is often owing to the existence of a third or accessory ovary. Kocks found a third ovary attached to a womb removed by him for cancer. The specimen was exhibited at the Medical Congress held last year at Cassel, and verified by Dr. A. R. Simpson, who happened to be present. Puech has collected several such cases, while the lamented Beigel, in three hundred and fifty *post mortem* examinations, found eight women with a third or accessory ovary, containing true ovarian stroma. These accessory ovaries range in size from a hemp-seed to that of a cherry, and are usually attached by a slender stalk. They very generally lie on the boundary line separating the peritoneum from the serous covering of the ovary. Beigel encountered three attached to one ovary and Waldeyer as many as six. 'On microscopic examination they were found to consist of normal ovarian tissues, and to contain Graafian follicles in every degree of development, as well as relics of corpora lutea and follicles which had dwindled without rupturing. The author concludes that both conception and also the pathological changes of normal ovaries may originate in these bodies. They may also have a bearing on the recurrence of menstruation after the complete removal of the ovaries.' I cannot but think that this is the explanation of Atlee's two remarkable cases, in each of which one ovary having been removed, the other became so diseased as to need repeated tappings,

and yet each woman not only menstruated, but gave birth to a child.

"Does the extirpation of the ovaries after puberty unsex a woman? So far as can be ascertained it does not; at least no more than castration after puberty unsexes a man. In the one the ability to inseminate is lost; in the other, the capability of being inseminated, but in both the sexual feelings remain pretty much the same. Kœberle, who has a large experience in double ovariectomies, avers that 'the extirpation of both ovaries does not produce a single marked change in the general condition of the woman. She has simply attained the menopause abruptly'. This opinion tallies with that expressed by Wells, Hegar, Peaslee, and Atlee, and is certainly confirmed by the history of my own patients, who are not conscious of any physical or psychological changes whatever.

"The operation of spaying is yet in its infancy, and time is needed to develop its resources. But I cannot help feeling that in carefully selected cases it will prove the sole means for curing many mental and physical disorders of menstrual life which have hitherto baffled our science, and are a standing opprobrium to our profession."

THE LYMPHATICS OF THE UTERUS.

DR. VLADISLAS MIERZEJEWSKY has recently published in the *Journ. de l'Anatomie et de la Physiologie* an important monograph on the subserous lymphatic system of the uterus, the result of observations made in the *abattoirs* of La Villette, Paris, whence fresh specimens of uterine tissue were taken from animals and prepared and injected, with numerous minute precautions against fallacy. The details of the preparation of sections for the microscope take up many pages of the essay. Prussian-blue and gamboge were the materials used for injecting the lymphatics. According to these observations, it appears that the subserous tissue of the uterus is very rich in lymphatics, which are no mere lacunar spaces, but fine vessels interlaced and entangled in all directions. Blood-capillaries run freely between these lymphatic vessels and the lymphatics of the serous membrane itself, whilst very few blood-vessels lie between that membrane and its own lymphatic vessels. This close relation of peritoneal to subserous uterine lymphatics, together with the great abundance of both these plexuses, is said to explain why uterine lymphangitis is almost constantly accompanied by peritonitis; the whole uterus is, in this disease, literally invested by a sheet of pus. Conversely, the paucity of the single blood-capillary plexus may account for the comparative rarity of peritonitis in cases of uterine phlebitis.

The deeper subserous uterine lymphatics run parallel with the bundles of the muscular fibres of the fundus and cornua, and on section appear triangular, but the more superficial vessels are absolutely irregular in arrangement. The valvular system of the lymphatics differ, according to the calibre of the vessels. In the most minute, there are but complete or partial constrictions, not projecting into the lumen, and only serving to slacken the lymph-current. In the largest vessels perfect valves are found, all opening in one direction; some are placed at the extremity of a dilatation; some across a dilatation; very few in an undilated segment of a vessel. But the constrictions are far more common

than the valves, even in the large lymphatics, where they are often oblique, giving the tube an appearance as though it were spirally twisted on its axis; the constrictions are sometimes double, and sometimes close to a true valve.

The portion of the monograph most interesting to the general anatomist and physiologist will be Dr. Mierzejewsky's observations on the endothelium of these lymphatic vessels. Between the cells of that layer he often found small spaces. These could not be young cells, for they were not nucleated. Many would have taken them for lacunar spaces. In reality they were out-growths from the cells themselves, which had pushed-in the borders of neighbouring cells. The invaded borders had gradually met round these out-growths, cutting them off from their parent cells. The existence of apparent "stomata" in the lymphatic system elsewhere, is discussed, and seriously doubted; they may not be holes at all, it appears, but mere cellular out-growths, nicked off by the encroaching borders of neighbouring cells; not, in fact, comparable to lakes between provinces, but rather to the little detached pieces of one county often lying completely within the borders of another.

Successful injections always showed that the subserous lymphatic vessels communicate with those in the muscular layer from which, and never from the subserous vessels directly, the main trunks collect and run to the broad ligaments. Into these trunks the submucous uterine lymphatic vessels also empty themselves. Hence the communication between the submucous and subserous lymphatic plexuses is very indirect. We understand that further researches on this subject will shortly be published by the same author.

ALBAN DORAN.

SCHIFF AND BROWN-SÉQUARD ON INDUCED HEMIANÆSTHESIA IN ANIMALS.*

M. CHARCOT'S demonstration of the fact that sensation can be restored in hysterical hemianæsthetic patients by the application of solenoids, led Professor Schiff to the inquiry whether the same results could not be attained in animals previously rendered hemianæsthetic by cerebral lesions. The experiments are interesting alike to the supporters and deniers of the theory of explanation of these and similar phenomena by "expectant attention" and mental impression. Professor Schiff asserts that the centres usually called motor centres are in animals (whatever they may be in man) not centres of motion, but of tactile sensation; and that their destruction does not cause motor paralysis, but loss of the sense of touch, and of muscular position. In some dogs, therefore, hemianæsthesia was produced by the destruction of these centres. All irritability from the wound was allowed to subside, and some months later the following observations were made. The anæsthesia being first thoroughly ascertained by various means, the insensitive paw of the animal was passed through the solenoid and the circuit closed. Five minutes later the animal showed, when touched on the paw on the

* "Contributions à l'Etude des Effets des Bobines d'Induction sur le système nerveux." Par M. Schiff. (*Archives des Sciences Phys. et Nat.*, Genève, 1879.)—"The Influence of Solenoids on the Nervous System," by George Sigerson, M.D. (*Brit. Med. Jour.*, April 26, 1879.)—"Quelques faits relatifs au mécanisme de production des Paralytiques et des Anesthésies d'origine Encéphalique." Par M. Brown-Séquard.

anæsthetic side, some signs of sensation, and in twenty minutes if the paw were tickled it was flexed. The induced sensibility remained for four or five hours. The experiment was repeated many times on various dogs, and always with the same result.

Dr. Brown-Séquard has just published two observations in which hemianæsthesia and hemihyperæsthesia were produced by cerebral lesions. In the first a section was made transversely across the external three-fourths of the *right* lateral half of the middle brain, immediately behind the middle cerebellar peduncle. The animal, a vigorous adult rabbit, fell at once paralysed on the *right* side. It moved the *left* legs voluntarily. Sensation seemed normal, if not rather increased in the *right* posterior limb, and abolished in the *left* posterior limb. Half an hour later the two posterior cords of the spinal cord at the level of the eleventh vertebra were cut. A marked hyperæsthesia of the *right* posterior limb was observed, the *left* continuing absolutely anæsthetic. All that remained of the *left* lateral half of the cord at the same level was then divided. Almost immediately the *right* posterior paw, which had been hyperæsthetic, became anæsthetic, and the *left*, that had been anæsthetic, became hyperæsthetic.

Dr. Brown-Séquard observes that he considers the first lesion of the middle brain on the *right* side caused the anæsthesia in the *left* posterior limb by arresting the activity—inhibitory influence—of the sensory nerve cells of the *left* half of the dorso-lumbar enlargement of the spinal cord. The lesion of the spinal cord on the *left* side caused in the same way the anæsthesia of the *right* posterior limb. In both cases the nerve cells had their activity arrested, just as that of the nerve cells of the heart is arrested if the vagus be irritated.

In the second experiment, performed on a healthy rabbit, the entire mass of the fibres coming from the anterior pyramid, and the lateral cord of the medulla, as well as three-fourths of the internal side of the *right* half of the middle brain, were cut across transversely. Paralysis with hyperæsthesia immediately followed on the *right* side, more particularly marked in the hind limb. Voluntary movement persisted on the *left* side, but sensation was almost annulled. Section of the *left* lateral half of the spinal cord in the dorsal region produced hyperæsthesia of the *left* hind limb and anæsthesia of the *right*. Dr. Brown-Séquard remarks that the only difference between this and the foregoing experiment is that in the former all the parts considered sensory were destroyed, and in the latter all the parts considered motor. He adds that in rabbits the paralysis is always on the side of the lesion.

ALICE M. HART.

EISENLOHR ON ACUTE AFFECTIONS OF THE PONS AND THE BULBS.

EISENLOHR gives, in the *Arch. f. Psych.*, ix, page 1, the histories of eleven cases of acute affections of the pons and the bulbs, of which the following cases appear to us the most noteworthy, as they are accompanied by the *post-mortem* results. Case 1, is that of a man, aged 55, who suddenly began to experience a difficulty in swallowing, and in his speech. There had been no apoplectic attack. The difficulties increased rapidly, and were complicated by paralysis of the *right* leg and arm. The patient passed his motions and urine in bed; six weeks later his speech had become almost unintelligible, and

he presented all the symptoms of bulbar paralysis. The masseter muscles were in a state of contraction. The upper branches of the facial nerve were free. There were no sensory troubles, but the motility of the *left* leg and arm was considerably impaired, and, as before noted, the *right* extremities were paralysed. The respiration was superficial, the urine dribbled away constantly. The hearing was considerably impaired in the *right* ear. Faradic contractility was normal in the region of the facial nerve, the tongue and the extremities. The movements of the *left* extremities were irregular and atactic. Towards the end of his life, the patient was unable to close his eyes completely, or to move the eyeballs to the *left* beyond the middle line. All the extremities were in a state of contraction and paralysis. Death ensued ten weeks after the first symptoms of the disease had manifested themselves. The necropsy revealed a basal chronic meningitis, which was localised in the part of the brain corresponding to the posterior fossa, and which had led to the obliteration of a number of the smaller vessels of the pons, and to softening of the corresponding portion. There was extensive degeneration of the *left* half of the pons, which extended across the raphe into the *right* half. Some portions of the superficial and deep layer of the transverse fibres had been destroyed by two smaller foci which were on the same level. The crura cerebelli, the remaining portions of the pons, and the medulla were intact, with the exception of a secondary degeneration in both pyramidal tracts, which could be traced down as far as the lumbar cord. The roots of the cerebral nerves were also intact. In giving the history of this case, the author draws attention to two points, as being especially worthy of notice. First—the extreme rarity of similar cases. Second—the fact that the symptoms observed in the course of this affection correspond to the phenomena which occur in the course of the apoplectic form, bulbar paralysis, as described by Joffroy.

Another case is that of a man, aged 50, who five years ago had had an apoplectic stroke, complicated with *right* hemiplegia and disturbances of speech. During the last weeks of his life, the patient had presented Stokes' respiratory phenomenon in a most exquisite form. At the *post-mortem*, cirrhosis of the kidneys, hypertrophy of the *left* ventricle, and a pleuritic exudation on the *left* side of the thorax were found, together with a remarkable anatomical change following an old obliteration of the vertebral artery. The *left* vertebral artery, from the branching off of the posterior inferior cerebral artery to its union with the basilar artery, had been changed into a solid thin cord, the inferior posterior cerebellar artery had shared its fate, while the anterior spinal artery had remained normal. The *right* vertebral artery was partly thickened. The bulbar nerves presented no microscopic change, but the ependyma of the bulbs was very turbid, thickened, and covered with granulations. After hardening the medulla in alcohol, a sclerotic degeneration of the ependyma of the fourth ventricle was revealed, which had originated in the plugged vessels of the choroid plexus, and extended into the region of the nuclei of the abducent nerve. Both sides were affected, but the *left* side more so than the *right*. The nerve nuclei, which lie beneath the degenerated portion, were comparatively little affected, with the exception of the nucleus of the *left* vagus nerve, and a small focus in the nucleus of the *left* hypoglossal nerve. The intrabulbar fibrous tracts of both nerves were

unaltered. The left pyramid had undergone secondary degeneration, owing to a focus in the cerebrum. An independent focus, containing obliterated vessels, was found in the left anterior horn of the spinal column.

In a typical case of bulbar paralysis, with progressive muscular atrophy, Dr. Eisenlohr found that the nuclei of the grey matter had undergone sclerotic degeneration. In this case the fibres of the roots were atrophic, and the ganglionic cells of the anterior horns of the spinal cord were partly destroyed.

A man, aged 57, had for some time been complaining of occipital headache, when he suddenly had an attack of dextrilateral, transitory hemiplegia. Two days later, his left side became affected in a similar manner; his utterance was very indistinct, but the sensibility remained normal. After two more days, the right leg and arm were again affected; the patient then became somnolent, his respiration grew stertorous; he could not swallow, and died on the seventh day of his illness. The necropsy revealed a plug of 1 centimetre in length in the basilar artery, which had undergone atheromatous degeneration; the pons was very soft to the touch, though not degenerated.

In the last case, the symptoms observed during life did not correspond with the *post mortem* results. The patient was a man, aged 73, in whom gradually for several years feebleness, first of the legs, then of the arms, had set in, together with disturbances of speech and paresis of the buccal branches of both facial nerves. The patient could swallow, and even perform simple movements with his tongue. His utterance was explosive. On attempting to walk, or to stretch his legs, trembling set in. The tendon reflexes were normal. The action of the sphincters and the sensibility was normal. Later on, the patient became confused in his mind. The necropsy revealed several minute apoplectic cysts in the anterior portions of both nuclei caudati, immediately beneath the surface and in both thalami optici. The remainder of the brain was intact. The basal arteries were atheromatous. This case proves that bulbar symptoms may be caused by bilateral lesions of the cerebrum.

M. v. T.

KLEBS AND TOMMASI-CRUDELI ON THE CAUSES OF RECURRENT FEVER AND THE NATURE OF MALARIA.

PROFESSOR KLEBS and Signor Tommasi-Crudeli have published in No. 28 of the *Allg. Wien Med. Zeit.*, 1879, the result of their researches on the etiology and nature of malaria. The experiments were conducted in the neighbourhood of Rome, in the so-called Agro-Romano. Signor Tommasi has already presented to the Reale Accademia dei Lincei his work under the title *Della distribuzione delle acque nel sotto-suolo dell' agro romano, e della sua influenza nella produzione della malaria* (On the Distribution of Water in the Subsoil of the Agro-Romano, and on its Influence on the Production of Malaria).

The experiments were conducted in the following way:—The efficiency of various sorts of soil, of the air, and the water, in regions where malaria exists, were first tested. Then the solid and liquid parts of these substances were separated and examined. This could be done after three different methods.

a. Starting from the supposition that organisms represent the germ of the disease, it appeared feasible to promote the development of the former in certain substances which contain them in great quantities, by exposing the substance to such conditions as have been found to be most favourable to their development (a high temperature, 86 to 104 degs. Cent., moisture of the profound layer of soil, rapid evaporation on the surface). *b.* After the substances had been thus prepared, minute particles were placed in different fluids, and cultivated. This process was repeated successively several times, with the object of ascertaining whether the particles had retained the virulence of the primary substance. If this be so, it is clear that only those particles of the substance which are capable of development can be regarded as the germs of the disease, because few, if any, of the particles that are not capable of reproduction, can have survived the successive cultivations. *c.* In every case the liquid was separated from the fine microscopic particles, by filtering it through plaster and other materials, and the virulence of the residuum and the filtrate tested separately. This method was first adopted by Klebs (*Arbeiten aus dem Berner Path. Institut.*, 1871-72; Würzburg 1873, p. 130), and latterly by Pasteur (*Comptes R. de l'Acad. des Sciences*, 19 April 1878, tome 86, p. 1037).

The virulence of these different substances was tested by injecting them under the skin of rabbits, and their effect carefully noted and studied. The results which have been obtained by these experiments may be briefly summed up as follows:

1. The malaria poison is contained in great quantities in the soil of malaria countries, at seasons of the year when no cases of fever have occurred.

2. At such times it can be obtained in favourably situated localities from the lower strata of air which are immediately above the soil. This is done by means of a ventilator, which throws about 300 litres of air with great force and rapidity against a sheet of glass covered with glue, to which the particles contained in the air adhere.

3. Water which stagnates in malaria countries does not appear to contain the poison, even if it should be rich in lower organisms. In fact, it is evident from the experiments that much water prevents the development of the malarial poison, and thus renders the germs harmless which may already exist.

The experiments on animals gave the following results: *a.* By inoculating rabbits with the liquids which had either been obtained directly from the soil, or else prepared from the cultivated germs, fever was produced which had a typical course. The intervals between the attacks lasted in some cases as long as 60 hours; during the attack, the temperature often rose to 107 degs.

b. If the filtrates of the said liquids were used, the changes of temperature were less considerable, even if five times the original quantity was used. The fever was either of an intermittent type, or else the temperature only rose once, immediately after the injection. It appeared that the same results could be obtained by filtering the substances through a double paper filter. This proves that the active organisms which carry the malaria poison can be more easily separated from the fluid in which they are contained than is the case in many other infectious processes, such as anthrax, septicæmia, etc.

c. Some of the animals which had not been inoculated with the malarial fluids, but had accidentally been wounded and had septicæmia, exhibited very

different curves of temperature. In some cases there was a continuous rise of the temperature, while in other cases the fever assumed an irregular character.

d. All the animals infected with malaria liquid exhibited considerable enlargement of the spleen. While in normal animals, which had been killed for the purpose of comparing the healthy spleen with the diseased organ, the spleen was 4 centimètres long, 0.8 centimètres broad, and 0.3 centimètres thick; it measured respectively 8, 3, 2, 3, and 0.9 centimètres in an animal which died after two injections in the course of 36 hours. The organ had increased from 9 to 10 times its normal size.

e. A large number of these spleens, and more especially so in the graver cases, were found to contain a black pigment very like the pigment found in individuals suffering from malaria.

f. The organisms which, according to the investigations of Klebs and Tommasi-Crudeli, constitute the real cause of malaria, as they were found not only in the virulent substances which were obtained from the soil and the water, but also by cultivation and in the bodies of the sick animals, belong to the genus bacillus. They exist in the soil of malaria countries in form of numerous shining ovoid spores, which are in perpetual motion. These spores develop to long threads, both in the animal body and in the cultivation apparatus. The threads are homogeneous at first, but later on they divide into several sections, and new threads are formed from each of these sections. The authors consider them as a special form of bacilli, and propose to call them bacillus malariae, as they have been found in the bodies of infected animals.

g. The bacterium belongs to the class aerobii (Pasteur), i. e., it must inhale oxygen, in order to live and develop. It can only exist in liquids which are rich in nitrogen, such as solutions of gluten, albumen, urine, and other liquids of the body, not in water. The most favourable soil for the development of the vibriones seems to be the spleen and the marrow of the bones.

M. v. T.

SANDERS AND HAMILTON ON LIPÆMIA AND FAT EMBOLISM IN THE FATAL DYSPNŒA AND COMA OF DIABETES.

PROFESSOR SANDERS and Mr. Hamilton contribute a valuable and interesting paper on this subject to the *Edinburgh Medical Journal* for July 1879.

Kussmaul, in the *Deutscher Archiv. f. Klin. Med.*, Aug. 1874, drew the attention of the profession to a remarkable mode of death in diabetes mellitus, which heretofore had not attracted particular notice. The fatal symptoms consisted in a peculiar sort of dyspnœa, often of terrible intensity, which, after a time, was accompanied by, and ended in, coma. It was known that fatal coma was not of unfrequent occurrence in diabetes, and that equally fatal respiratory symptoms were not uncommon; but the first, when not due to cerebral hæmorrhage, was ascribed to uræmia, and the latter to a "pneumonie foudroyante". On careful analysis of the case that had occurred in his practice, Kussmaul came to the important conclusion that the dyspnœa and coma were due to some profound alteration in the blood of diabetics. Many years before, Petters, attracted by the peculiar chloroform smell of the urine and excreta of diabetics, had discovered the presence of

acetone in the urine and blood of a patient, and had referred the fatal issue of his case to acetone poisoning. Kaulich confirmed and extended the observations, but the symptoms he attributed to acetone poisoning—apathy, somnolence, *weakness, and slowness of respiration*, etc.—were not in accordance with Kussmaul's clinical experience. Experimenting on dogs and rabbits by subcutaneous injection and inhalation, he found that acetone could produce intoxication and stupor, but not anæsthesia. It resembled alcohol more than chloroform in its effects, but it was more potent than alcohol, also more volatile, speedily evaporating by the lungs. In moderate amount, acetone caused intoxication, with slow respiration; in the highest degree of acetone poisoning, along with the stupor, the breathing was slow, sometimes stertorous, and the respiratory movements were unusually deep, becoming afterwards irregular. Kussmaul thought that the coma in these experiments resembled the diabetic coma, and that the very deep inspiratory and expiratory movements in the first stage of acetone poisoning were like the dyspnœa observed in his patients. At the same time, he noticed the objection to this theory of acetonæmia, that a large quantity of acetone is necessary to produce poisoning, and that we are ignorant whether a substance that exhales so rapidly through the lungs can accumulate in the lung in large amount. He suggests, however, that the long-continued introduction of acetone into the blood might, in weak conditions of the nervous system, induce a chronic poisoning which might suddenly assume an acute form, just as chronic alcoholism in drunkards breaks into delirium.

Aside from any theory of causation, the clinical features of this deep, double dyspnœa and subsequent coma observed in some cases of diabetes are highly interesting.

The facts advanced by Sanders and Hamilton, substantiated as they are by chemical and microscopic investigations, would seem to offer a more satisfactory explanation of these symptoms than the acetone theory proposed by Petters and embraced by Kussmaul.

That the blood in some cases of diabetes contained an unusual amount of fat, has long been known. Dobson and Rollo, many years since, pointed out this fact, and the observations have been confirmed by a great number of others, among whom are Marsh, Hutchinson, Thomson, Lebert, Pavy, Hoppe-Seyler, etc. These observers have shown that an appreciable amount of fat can be extracted from the blood of diabetics, by agitating it with ether. Simon found 2 to 2.4 per cent., while the normal is only 1.6 to 1.9 per cent.

It would appear, from the observations of Sanders and Hamilton, that this accumulation of fat in the blood of diabetics, is entitled to more consideration than it has yet received at the hands of pathologists. It occurred to them that this lipæmic condition might afford, in the way of fat embolism, a clearer elucidation of the symptoms of the dyspnœa than did the acetonæmic theory. Without entering into the details of their investigations, we give the results that led them to hold this view of the causation of the deep, double dyspnœa and coma frequently observed in cases of diabetes:—

1. The fatty state of the blood in all the cases known to them.

2. The anatomical evidences of fat emboli, chiefly in the minute pulmonary vessels and capillaries, and

to a less extent in those of the kidneys and other organs.

3. The entire similarity of the histological appearances in the lungs to those found in fat embolism from fractured bones.

4. The analogy in the symptoms of dyspnoea and coma in fat embolism from fracture, as compared with the diabetic conditions. In this connection, reference is made to the clinical observations on fat embolism, by Professor Czerny, in the *Berliner Klin. Woch.*, November 1875.

MEDICINE.

1. BARNES.—The Significance of Thrombosis. (*Brit. Med. Journ.*, London, 1879, i, 937.)

2. BEARD.—The Climatology of Nervous Diseases. (*Public Health*, N. Y., 1879-80, i, 34.)

3. BERGER.—Spinal Hypertrophic Pachymeningitis.

4. EVANS.—Impaction of False Teeth in the Oesophagus for more than two years.

5. DA COSTA.—Syphilitic Meningitis. Lead-poisoning. (*Hosp. Gaz.*, N. Y., 1879, vi, 310.)

6. DOLAN.—Disease caused by Cysticerci in Brain mistaken during life for Hydrophobia. (*Pract.*, London, 1879, xxiii, 34-36.)

7. HARDY.—Cirrhose Hypertrophique du Foie. (*Gaz. d'Hôp.*, Paris, 1879, 625, 642.)

8. HENNING.—Appearance of the Tongue in Disease.

9. LAURE.—On the Fever of Phthisis.

10. MAKUNA.—On the Diagnosis of Variola from Variella Vera.

11. WOLFE.—On the Toxic Effects of Tea.

3. *Berger on Spinal Hypertrophic Pachymeningitis.*—Dr. Berger reports several cases of this affection, one of which, that of a woman aged 45, presents features of peculiar interest, as the patient recovered after having suffered for years. After repeated severe chills she had felt violent sharp pains in the cervical vertebral column, and the left elbow and shoulder joint. At the same time her neck became stiff, and the left arm grew very weak. The muscles of the thumb, the interossei, and the forearm became gradually very much atrophied. The right arm was less affected. The treatment consisted in galvanisation of the spine and extremities, the administration of iodide of potassium, and in the production of supuration of the spinal region. The patient recovered entirely and regained flesh. The author particularly draws attention to the usefulness of warm baths of several hours' duration in the first period of the disease. He has found them answer very well in a case of what seemed to be meningitis of the lumbar vertebra, after typhoid fever. Herr Berger points out that the diagnosis of hypertrophic spinal pachymeningitis can only be made with certainty when atrophy of the muscles has set in.

4. *Evans on Impaction of False Teeth in the Oesophagus for more than Two Years.*—Dr. Nicholl Evans was called to see Miss A., an anæmic hysterical girl, aged 21, who, in the evening of April 26, 1877, had swallowed a gold plate, an inch and a quarter in its widest diameter, with four incisor teeth attached. Many attempts were made to extract it from the position it had assumed, about two inches below the upper border of the sternum. Mr. Thomas Smith, after various fruitless efforts, decided to leave the case to Nature, feeding the patient with fluids and nutrient enemata. Seven

months subsequently she was so thin that the spinal column could be felt, almost without pressure, immediately behind the abdominal walls. On May 4, 1879, she vomited, and hearing something drop into the basin picked out the missing teeth. No unusual pain was experienced and no blood followed; deglutition did not subsequently appear much easier, but a choking sensation, which had previously followed the use of food, ceased. Had she not been for years educated in starvation, both Dr. Evans and Mr. Smith think she could not have lived for so long a period.

RICHARD NEALE, M.D.

8. *Henning on the Appearance of the Tongue in Disease.*—(1) The *elongated* and *pointed* tongue invariably indicates irritation and determination of blood to the stomach and intestines. The extremities are often cold. It is also associated with excitation of the nerve centres. This tongue is often found, but more especially among children. The indications are to allay irritation and divert the blood from the stomach and bowels. We should be very careful how we make our prescription in such cases, as, if we give an irritant cathartic it invariably aggravates the disease. (2) The *pinched* and *shrunk* tongue indicates atony of the digestive organs, often found in dyspepsia and kindred diseases. The treatment is plain, the pathological conditions being evident at a glance, from the appearance of the tongue. (3) The coating (*saburra*) or fur should be well studied. It may be greater or less in thickness, dry or moist, or clammy, more accumulated at the posterior portion. It is said that when the tongue is heavily coated at the base, with a deep yellow coat, the liver is at fault. This is not always the case; and, from my observation, more often not the case. I have seen cases of jaundice with a white-coated tongue. Tobacco chewers nearly always have a yellow-coated tongue, and their liver may be sound. (4) The *dry* tongue has a very important significance. When we have patients who are suffering from some form of fever, pneumonia, or any other acute disease, with such a tongue, they are in danger, and require close attention. In such cases nutrition and assimilation are suspended, and food cannot well be taken, and, if taken, cannot be properly assimilated. When given, it should be in fluid form, and always above the temperature of 100°, and of a character nutritive and digestible. The digestive organs can do but little work, yet proper food given at proper intervals does good; but these organs need all the rest they can get until the disease is subdued. Dryness of the tongue is also associated with vascular excitement, and particularly with excitation of the ganglionic and nerve centres. Hence the arrest of secretion and this dryness. Here we readily read the state of the *nervous system*. In many cases, the sympathetic nerve is not only excited and irritated, but there is involuntary contraction of muscular tissue, thus suspending the secretions of the several organs. The indications are, proper sedatives for the vascular excitement, and diaphoretics for contractions or excitement of the nerves, associated with other proper treatment. By this course we shall soon see our patient with a moist tongue, and some of the secretions re-established. (5) Often the tongue changes in the disease from the dryness above referred to a brown or black colour, with sordes about the teeth. The common idea is that the system is in a typhoid condition. This is true; yet it undoubtedly means, also, that the blood is in a septic condition—a very important fact for us to know. Then our best anti-

septics should be given, with stimulants and tonics. Thus we can readily read, from the appearance of the tongue, the condition of the digestive organs, function of nutrition and assimilation, the condition of the nervous system, and the state of the blood. Of course, we must take all other symptoms into consideration. Yet the appearances of the tongue, as pointed out, seldom fail in giving us, at a glance, valuable information as to the true condition of the system.

9. *Laure on the Fever of Phthisis.*—Dr. Laure recommends at first an emetic of ipecacuanha and warm water, the evacuation attending which he maintains "calms the cough, the irritation, the bronchial fluxion, gets rid of accumulation of mucus, which give rise to attacks of palpitation and suffocation; the patient falls asleep, and, on waking, the pulse is found reduced by ten to fifteen beats; he feels relieved, and eats with pleasure". After the emetic, he gives a dose of quinine in the evening, and, at night, a sedative in the form of a small dose of hydrocyanic acid, chloral, or codeia. The next day, a second ipecacuanha emetic, and, in the evening, if there is any pain in the side, a blister with morphine or camphor dressing. He is also profuse in his administration of tonics, "fresh air, iron, quinine, arsenic, cod-liver oil, glycerine, creasote, tar, phosphate of lime, good wine". "It is essential," he adds, "that a phthisical patient should be made to sleep; opium relieves pain and lessens oppression before it induces sleep, it arrests the tendency to congestion. Instead of paralysing the stomach, as may occur from its abuse, it revives digestion by diminishing the sensibility to the contact of food. It should often be associated with an expectorant." Ipecacuanha should always be given with water; alone it excites painful spasms, and vomiting is less easy. Cough, fever, hæmoptysis, are all indications for ipecacuanha. With ipecacuanha and quinine he obtains "relative" cures, and always amelioration. He also maintains that sulphurous inhalations are of great value for the same purpose, *i.e.*, as a sedative, and antipyretic remedy. J. BURNEY YEO.

10. *Makuna on the Diagnosis of Variola from Varicella Vera.*—Mr. Makuna had sixteen cases of varicella sent to the Small-pox Hospital in seven months through mistaken diagnosis. As the necessity of forming a correct diagnosis is so evident, Mr. Makuna gives the following data. First, the period of incubation. In varicella, this varies from eight to seventeen days; in variola, from nine to twenty-one. Neither prodromata nor the primary fever are capable of leading, in all cases, to a precise diagnosis. The distinguishing features are, however, made evident soon after the manifestation of the disease. In variola, the eruption is first papular, then vesicular, and finally pustular. In variola varicelloides, the pustular stage is abortive. It takes three days for a papule to become a vesicle, and between two and three days for a vesicle to turn into a pustule. Generally the vesicle is umbilicated, not always. The distinguishing feature of the varicellous vesicles is that they are *always multilocular*, and cannot be emptied by a single puncture with a needle. The contents of the vesicles are "plastic and viscous". In varicella, the papular stage lasts only a few hours; the spots are unequal, and, on the second or third day, they are seen in all stages of development, since fresh crops come out daily. The vesicles are superficial, more or less globular, with an undefined areola around. The fully formed

vesicles are *unilocular*, and can be emptied by a single puncture. The lymph is "serous and watery".

11. *Wolfe on the Toxic Effects of Tea.*—Lord Wm. Beresford's charger in Zululand has immortalised itself by dying from an overdose of tea, given to it, accidentally, by its Kaffir groom. The quantity taken is not stated, but may have been several pounds in weight. The effect was to make the animal kick and plunge, run backwards, at intervals gallop madly around, and finally fall into a donga, where it lay dashing its head upon the rocks, until a friendly assegai terminated its misery. A paper read by Dr. Morton (*Medical Times and Gazette*, p. 247) on the effects upon five "tea-tasters" and upon himself of large and frequent doses of tea, records a train of nervous symptoms following its use, with diminished excretion of urea. In the Ophthalmological Section at the Cork Meeting of the British Medical Association, Dr. Wolfe described softening of the vitreous humour, which, in his opinion, was due to excessive tea-drinking. This view of the matter was contested by several gentlemen present. R. NEALE, M.D.

MATERIA MEDICA AND THERAPEUTICS.

RECENT PAPERS.

1. Administration of Salicylic Acid.
2. ARCHAMBAULT.—Traitement des Vesicatoires Diphthériques par le Camphre phénique. (*France Méd.*, Paris, 1879, xxvi, 40.)
3. ATKINSON.—On the Treatment of Hæmorrhoids.
4. BAILEN.—De quelques Troubles organiques, attribuables à l'Usage immodéré des Asperges. (*Gaz. Méd. de l'Algérie*, 1879, xxiv, 61-65.)
5. BOILEAU.—On Treatment of Syphilis without Mercury. (*Brit. Med. Jour.*, July 1879, p. 82.)
6. BROWN.—On Potassium Permanganate Hypodermically in the Treatment of Diphtheria.
7. CARSON.—On Fucus Vesiculosus in the Treatment of Obesity. (*Brit. Med. Jour.*, July 1879, p. 117.)
8. CAVAZZANI.—Application in Erysipelas. (*La Farm. Mod.*, 1879, 98.)
9. CHITWOOD.—On the Local Use of Chloral Hydrate in Tonsillitis, Diphtheria, and Kindred Sore Throats.
10. Chlorate of Potash in Epithelioma.
11. COGHILL.—On the Hypophosphites in Phthisis.
12. COGHILL.—On Nitrite of Amyl in Chloral Poisoning. (*Brit. Med. Jour.*, June 1879, p. 969.)
13. COULTCHER and LABORDE.—Essai Expérimental sur les Injections Intraveineuses de Lait. (*Trib. Méd.*, Paris, 1879, xii, 291-294.)
14. DEMANGE.—De la Glycérine, comme Médicament Interne. (*Rev. Méd. de l'Est*, 1879, xi, 321-329.)
15. DUFAU.—On the Stigmata of Maize in Diseases of the Bladder. (*Le Courier Médical*, May 3 and July 12, 1879.)
16. FARQUHARSON.—On the Treatment of Incontinence of Urine. (*Pract.*, July 1879.)
17. FILEHNE.—Ueber die Einwirkung des Morphins auf die Athmung. (*Arch. f. exp. Path. and Pharm.*, Leipzig, 1879, xi, 45-64.)
18. FLINT.—On Chloride of Barium in Internal Aneurism. (*Pract.*, July 1879.)
19. FRIEDMANN.—On the Hydrotherapeutic Treatment of Reflex Neurosis.
20. GREEN.—On the Iodo-Bromide of Potassium in Epilepsy.
21. HAMILTON.—On Posture as a Means of Relief in Strangulated and Incarcerated Hernia. (*Hosp. Gaz.*, N. Y., 1879-80, vi, 211-220.)
22. JAGIELSKI.—On Koumiss in the Treatment of Phthisis.

23. JACOBI.—On Dangers of Chlorate of Potass. (*Med. Rec.*, March 11, 1879.)

24. LANDRIEUX.—Use of Chlorhydrate of Pilocarpine in Pleurisy.

25. MULHERON and RICE.—On New Remedies. (*Detroit Lancet*, 1879, iii, 135-137.)

26. MUELLER.—On the Manufacture of Lead Plaster. (*New Remedies*, Sept.)

27. PÉTÉR.—On the Treatment of Diarrhoea in Tuberculous Patients. (*Lyon Méd.*, No. 32.)

28. RECLAM.—Der Theer als inneres Heilmittel. (*Berl. Klin. Woch.*, 1879, xvi, 399-402.)

29. ROUSSEL'S Mixture for Amenorrhoea and Dysmenorrhoea. (*La Farmacia Moderna*, 1879, No. 98.)

30. SHAND.—Purpura Hæmorrhagica. (*Lancet*, July 1879.)

31. SIMON'S Tonic Powders. (*La Farm. Mod.*, 1879, No. 98.)

32. SOUTHAM.—Hot-air Bath in Hydrophobia.

33. Tasteless Cinchona Mixture.

34. Tincture of Hamamelis as a Styptic. (*Lancet*.)

35. TEEVAN.—Milk Diet in Chronic Cystitis. (*France Méd.*, 14 Aug.)

36. WADE.—Chloric Acid. (*Detroit Lancet*, June 1879.)

1. *Administration of Salicylic Acid.*—A very good method is to mix the salicylic acid with powdered extract of liquorice, or better with ammoniacal glycyrrhizin, and to dispense it in wafer-capsules. Formulæ would be: R. Acidi salicylici, Extract. glycyrrhizæ co., āā gr. x; Mix. Dispense in wafer-capsule; R. Acidi salicylici, Glycyrrhizini (ammoniaci), āā gr. x, Mix. Dispense in wafer-capsule.

3. *Atkinson on the Treatment of Hæmorrhoids.*—Dr. Atkinson divides the treatment of hæmorrhoids into the acute, subacute, and chronic. In the acute stage, dusting with calomel has yielded very satisfactory results. Hot water sponging also gives a good deal of ease. Leeches, etc., as a *dernier-résort*, incision and turning out the clot, may be employed. In the subacute stage, the compound gall ointment is to be used with cold-water enemata, after each action of the bowels. In the chronic stage, nothing is so valuable as the common pitch ointment, which deserves a fair trial in all cases that will not yield to other measures.

5. *Boileau on Treatment of Syphilis without Mercury.*—Dr. J. P. H. Boileau gives the history of seventeen cases that had been long watched by him after their discharge, as cured of well-marked syphilis without the use of mercury. In all, perfect health continued. Dr. Boileau states that he has now treated too many cases of syphilis without mercury, to doubt that the disease can be cured without the use of this drug. His sheet anchor has been the hot bath; the patients being a good deal confined to bed, with the most scrupulous attention paid to cleanliness and good diet. Iodide of potassium took the second place in the treatment. Locally, water dressings were chiefly used. The cases given were selected from hundreds similarly treated and cured, and are all instances of indurated sores without suppurating buboes, so as to silence all criticisms. Experience proves to Dr. Boileau that syphilis is as certainly cured without mercury as are typhoid fever or small-pox. [Dr. Boileau read a paper upon this same subject at the Bath meeting last year, which was followed by an interesting discussion, *vide British Medical Journal*, August 1878, p. 281. To those who wish to refer to the literature of the subject, and to consult the numerous papers in the medical journals during the last twenty or thirty years, the *Medical Digest*, section 1191, i, will afford valuable aid.—*Rep.*]

6. *Brown on Potassium Permanganate Hypodermically in the Treatment of Diphtheria.*—Dr. R. F. C. Brown says that he has practised the use of potassium permanganate hypodermically, well diluted, in several cases of diphtheria of malignant type, and has found that the cases yield to treatment readily by this method. One of the cases was in his own person. In addition, he used a spray of the same in the throat. In fact, the doctor thinks he has found almost a specific for that disease.

7. *Carson on Fucus Vesiculosus in the Treatment of Obesity.*—Dr. A. T. Carson has given a rude blow to the use of this agent as an "Anti-fat", by the statement that pigs are fattened upon the weed in some parts of Ireland, and he cannot believe that a food which fattens a pig, will have the contrary effect upon a christian. R. NEALE, M.D.

8. *Cavazzani's Application for Erysipelas.*—Camphor, 1 part; tannic acid, 1 part; ether, 8 parts.

9. *Chitwood on the Local Use of Chloral Hydrate in Tonsillitis, Diphtheria, and Kindred Sore Throats.*—John E. Chitwood, M.D., uses the following formula as a local application in tonsillitis, diphtheria, and other acute throat affections: R. Chloral hydrat, 3 i; Glycerine, 3 i; Mix. Apply locally every six hours with a camel's hair pencil. This has given entire satisfaction in the above-named cases, but, of course, a proper constitutional treatment must be pursued in all cases.

10. *Chlorate of Potash in Epithelioma.*—A correspondent gives a "straight tip" for epithelioma in the use of a concentrated solution of chlorate of potash applied locally. This treatment is not suggested as new, since many of our continental brethren frequently use it; still, a recent case of Professor Broca's exhibited such good results, that its value deserves being brought more under notice.

11. *Coghill on the Hypophosphites in Phthisis.*—Dr. Coghill, in a critical review of the value of the hypophosphites of lime and soda, gives the results of this treatment in 100 indiscriminate cases, where it was fairly tried in the Royal National Hospital at Ventnor. 57 improved, 17 remained *in statu quo*, 26 got worse, and 4 died. Of 328 patients otherwise treated, 240 improved, 39 remained *in statu quo*, 25 got worse, and 20 died. "It seems evident from these statistics that the hypophosphites have no claim whatever to the character or properties of a specific remedy in the developed stages of pulmonary consumption." "In only 25 per cent. of the cases could they be employed unaided, and these were cases in which change of climate, improved dietetic and hygienic conditions, with general tonic treatment, would probably have shown good results. Great disappointment resulted from their impotency in checking such characteristic symptoms of the disease as night sweats, or influencing favourably the febrile conditions indicating advancing lung mischief. That, however, these salts have, when judiciously employed, valuable tonic properties, promoting the appetite, the digestion, and the assimilation, more especially of fatty food, was strongly impressed on all. They have certainly no specific influence (so far as I have been able to form an opinion, after the most careful and unbiassed observation) either in arresting, when in progress, or markedly promoting repair when stayed, the several forms of pulmonary phthisis, whether tubercular or pneumonic." Although by no means specific in the tubercular diathesis, still, Dr. Coghill highly values the hypophosphite of soda as a nerve tonic, and perhaps even as a tissue-builder.

12. *Coghill on Nitrite of Amyl in Chloral Poisoning*.—Dr. J. G. S. Coghill was called to see a man, aged 62, who, two hours after taking a large dose (quantity uncertain) of chloral, was gasping, with four respirations a minute, kept up by artificial respiration. The surface was cold, deeply cyanosed, with the pupils contracted to the size of a pin's-head. The pulse was 80, full, soft and compressible. Twenty drops of nitrite of amyl were administered by inhalation. Within two minutes warmth had returned, even to the extremities, and the surface had resumed the hue of health. In ten minutes the respirations reached nine per minute, and gradually rose to twelve. The amyl was repeated in a smaller dose, after an interval of two hours. On the following morning, at 9.30, about twelve hours after the chloral was taken, although the patient was generally much improved, still there was no return of consciousness, but after two brandy and beef-tea enemata, he became quite sensible and spoke to those around, and swallowed food. At 6.30 p.m. the patient was improved, and continued to do so till 9 p.m., when he started up suddenly from sleep, stared around, threw up his hands, and, with a cry, fell back dead. Dr. Coghill thinks a more copious stimulation, per anum, might have warded off the fatal results due to cardiac syncope.

15. *Dufau on the Stigmata of Maize in Diseases of the Bladder*.—As the stigmata of maize are a very recent and as yet but little known addition to the materia medica, the following *résumé* of the conclusions reached by Dr. Dufau, both from personal observation and from the reports of others, will undoubtedly prove interesting. 1. The stigmata of maize have a very marked, though not always a favourable, action in all affections of the bladder, whether acute or chronic. 2. In acute traumatic cystitis, and also in gonorrhoeal cystitis, they have a very marked diuretic action, but, at the same time, increase the pain; hence they should not be employed in these cases. 3. The best results have been obtained in cases of uric or phosphatic gravel, of chronic cystitis, whether simple or consecutive to gravel, and of mucous or muco-purulent catarrh. All the symptoms of the disease, the vesical pains, the dysuria, the excretion of sand, the ammoniacal odour, etc., rapidly disappear under the influence of the medicine. 4. The retention of urine dependent on these various affections often disappears as improvement progresses, but the use of the sound must sometimes be continued, in order to empty the bladder completely. 5. The stigmata of maize have very often produced a cure after all the usual internal remedies had been tried in vain, or with only partial success. In other cases, the ordinary methods of treatment, which had at first proved more or less entirely useless, became efficacious after the stigmata had been administered for a time, and had, as it were, broken the ground for them. Most frequently the stigmata alone sufficed for the cure, but still in some cases, the effect was incomplete, and it was found that the treatment could be varied with benefit. Injections and irrigations of the bladder also proved useful adjuncts to the maize. 6. As the stigmata of maize are a very powerful, though at the same time entirely inoffensive diuretic, they have also been employed with the best results in cases of heart-disease, albuminuria, and other affections requiring diuretics. Cases have been reported in which the urinary secretion was tripled and even quintupled in the first twenty-four hours, and others where the exhibition of the drug was continued for two or three months without the

slightest untoward effect. 7. The best preparations of the stigmata are the extract and a syrup made from it. The decoction is unreliable and uncertain. The syrup, the usual dose of which is two or three teaspoonfuls *per diem*, must be largely diluted, and for this purpose either hot or cold water, or a decoction of the stigmata, may be used. The taste of the mixture is very agreeable. It should be given fasting.

16. *Farquharson on the Treatment of Incontinence of Urine*.—Dr. Robert Farquharson, after reviewing the surgical causes of this troublesome affection, divides those afflicted into three classes. The first includes patients in whom debility plays the most important part, and who, as a rule, readily yield to iron and good hygienic rules, although in these we must often be prepared for disappointment. In the second class are the congenital, occasionally hereditary, cases. In these, the day enuresis is less obstinate than the night trouble, which is often quite incurable by the means of drugs, and only takes its departure at puberty. Ergot has proved unsuccessful in Dr. Farquharson's hands, while belladonna pushed to large doses, 3ij to 3iij, in children of nine and thirteen years old, has been often followed by good results. Class No. 3 owe their disease to neurosis of the lumbar spinal cord, whence spring the nerves that preside over micturition. In one child, during an attack of chorea, the enuresis ceased. Drugs have failed to satisfy Dr. Farquharson as a means of cure. Restricting meat in the diet does not meet with his favour; one of the most obstinate cases he has met with occurring in a child who never could be induced to eat meat. Counterirritation to the spine may yield better results if judiciously employed.

18. *Flint on Chloride of Barium in Internal Aneurism*.—Dr. F. Flint was called in February 1878 to visit a lady, aged 65, of active habits, though not over strong. She stated that often there had been throbbing with pain on the left side and towards the back, but she made no complaint until the date of visit, when advice was sought for a pyrexial attack, and at this time distinct evidence of abdominal aneurism was found. Tufnell's treatment was adopted most rigidly for five months, and so far from there being any improvement, the throbbing of the tumour often quite shook the bed. As there were reasons for not using iodide of potassium, chloride of barium was given in one-fifth of a grain dose three times a day; increased after three or four weeks to two-fifths of a grain. At the end of five months the tumour was so reduced as to be scarcely felt, and only a faint systolic murmur could be heard; and now, five months later on, since the drug was stopped, there is only a slight systolic bruit, but no throbbing; the pulse is 72, and has entirely lost its unnatural tension. How the drug acts must yet be a subject of observation and research.

19. *Friedmann on the Hydrotherapeutic Treatment of Reflex-neurosis*.—Dr. T. Friedmann, the director of the hydrotherapeutic establishment at Voeslau-Gainfarn reports the following three cases where excellent results were obtained by water.—Case 1. A gentleman, aged 60, from Paris. He had suffered much mental emotion and terror during the siege of Paris in 1871-1872. Soon after, he began to notice a tremor in his upper extremities, which subsequently affected his lower ones. These latter were accompanied by convulsions and a frequent involuntary bending of the knees. When first seen by the author, the patient's condition was as follows:—He

was fairly nourished, and his internal organs were healthy. At every attempt to execute a movement, the upper extremities began to tremble. Both bicep muscles presented clonic convulsions; the latter could also be artificially produced by percussing the said muscles. The flexor muscles of the legs were affected by similar convulsions, which caused a frequent bending of the knees when walking. The movements of the hands were also greatly impaired; the patient could not raise a glass of water or a spoonful of soup to his mouth, without spilling the greater part of the contents on his clothes. He had for several years tried various cures, but without effect. At last he was persuaded to try what water could do for him. The treatment consisted at first in prolonged baths of medium temperature, which after a while were followed by cool sitz baths, combined with local shower baths. In the course of the first month, the patient's movements had become visibly stronger and less uncertain. Towards the end of the second month, the patient was able to undertake long walks, and could use his hands perfectly well. The convulsive neurosis which had been produced by psychical emotion had been effectually cured.—Case 2, is a case of rheumatic reflex neurosis, which had presented all the symptoms of tetanus. The patient, a railway official from Galicia, aged 26, had felt a severe pain in the back after a hard day's work in cold, windy weather. Soon after, he became unable to walk, as every attempt of locomotion was followed by violent convulsions in the muscles of his limb and his trunk. He was obliged to give up his work, and after failing to obtain relief from the usual therapeutic means, he entered the establishment at Vöslau. He was pale, but fairly nourished. Family history good. He had always been well, with the exception of an occasional catarrh. The thoracic and abdominal viscera were healthy. No abnormal phenomena appeared as long as the patient was sitting quiet, but whenever he attempted to rise, tonic convulsions set in in the flexor muscles of the upper and lower extremities. The clonic spasms extended to the straight abdominal muscles and the extensors of the vertebrae. After walking a few steps, the patient suddenly assumed a crouching position, when the abdominal muscles felt as hard as a board; on attempting to rise he was drawn backwards by the clonic spasms of the dorsal muscles, and would have fallen on his back, if he had not either caught hold of something or else again crouched down. Every mechanical irritation increased this convulsive state of the muscular system. After continuing these movements for about ten minutes, the patient would fall back on his couch quite exhausted. The treatment consisted in sitz baths, which were subsequently combined with local douches and frictions. After a stay of two months in the establishment, the patient was able to return to work.—Case 3, is that of a Russian gentleman, aged 26, who had been sent to the establishment by Profs. Billroth, Bamberger, and Duchek. The patient had been operated upon three months before for an abscess in the right maxillary region, which had been caused by periostitis. A few days after the wound had been healed, the patient began to suffer from epileptiform fits, which were subsequently complicated with tremor of the head and contractions of the cervical muscles on the left side. The patient had never before been subject to similar attacks, neither had any members of his family, although his father was said to have frequently suffered from congestion of the brain.

The patient was a strong-built man, looking very pale. The thoracic and abdominal viscera were healthy. On the right maxilla was a scar of about 3 centimètres long, which was very tender to pressure. The application of the faradic current or of extreme heat or cold, was exceedingly painful; and if repeated for some time gave rise to disagreeable sensations in the head. At the same time there was tremor of the head and contraction of the left sternocleido-mastoid muscle. In the morning and forenoon, the patient was generally quiet, with the exception of the symptoms which have been described. In the course of the afternoon, at about 4 p.m., he suddenly became restless; his face was congested, his eyes were bloodshot and rolled about wildly; he did not venture to leave his room alone, but insisted on going out into the air. This prodromal stage lasted generally for one hour to one and a half hours, when he would suddenly fling his right arm round the neck of his attendant and jump about the room on his left leg, which was spasmodically contracted, for half an hour or more, till he sank down exhausted on his couch. At this stage of his paroxysm, he lost consciousness, and was seized with such violent tonic-clonic convulsions that he had to be held down by five or six men. From time to time he would utter the exclamation, "You rascal!" The convulsions generally ceased in the course of half an hour to an hour; the patient recovered consciousness and felt strong enough to leave his couch and take a walk. The nights were sleepless, and the patient only sank into a short slumber towards morning. During the first three weeks, the condition of the patient remained much the same. It was then suggested that perhaps excision of the scar might afford some relief. This plan was carried out, and after the wound healed, another attempt at hydropathic treatment was made. During the first few days, the fits described were frequently repeated, probably owing to the irritation caused by the fresh sore. But in a very short time the soothing influence of the water-treatment showed itself distinctly; the patient gradually became less excited, the paroxysms were slighter, less intense and frequent, and his mental condition was much improved. Three weeks after the operation, the fits had completely ceased, the patient's motor power was entirely restored, and three weeks later he left the establishment in perfect mental and bodily health.

20. *Green on the Iodo-Bromide of Potassium in Epilepsy.*—Mr. Green has sometimes found the bromide, alone, to fail in the cure of epilepsy, but has derived satisfactory results, in the majority of such cases, by combining the iodide with the bromide.

21. *Hamilton on Posture as a Means of Relief in Strangulated and Incarcerated Hernia.*—At the end of a very interesting paper read before the New York Academy of Medicine recently, by Dr. Frank H. Hamilton, the following conclusions are stated: First, as to our ability to increase the diameter of the hernial apertures, except by resort to herniotomy. Hernial apertures can seldom be relaxed or opened by any measure, except by a surgical operation. The apertures do not, but with rare exceptions, actively compress the protruding viscera; the viscera, however, become constricted by pressure against the apertures. Relaxation of these apertures is not, therefore, ordinarily a part of the mechanism of the release of a strangulation and of the return of the viscera. Second, as to the effects of taxis and inward traction. Taxis, or pressure from without in,

judiciously applied, is first in point of importance as a means of reducing strangulated hernia. Inward traction, judiciously employed, is only second in importance to taxis. It is effected indirectly by paralysis of the abdominal muscles, through the agency of posture or of general muscular relaxants, and by emptying the bladder and lower gut. It is effected directly by peristalsis, anti-peristalsis, and gravitation through the agency of posture. The following means of reducing hernia, alluded to by Dr. Hamilton, may be briefly mentioned:—1. Emptying the bladder and rectum and distracting the attention of the patient. 2. Chloroform, bleeding to syncope, or the hot bath to syncope. 3. Ice as a local application can only relieve the button-holding when it is due to congestion of the vessels, and then only when the circulation is not completely arrested. 4. Opium, which acts indirectly in paralyzing the abdominal muscles. 5. Emetics act probably by upward traction. 6. Purgatives, like emetics, do harm when not successful; they act probably by producing anti-peristalsis. 7. Tobacco and other enemata cause general muscular paralysis. 8. Postures in which the viscera are dragged towards the upper portion of the abdominal cavity are directly useful.

22. *Jagielski on Koumiss in the Treatment of Phthisis*.—In reply to a letter of Cullemore upon the influence of Iceland, the Tartar Steppes, etc., in producing immunity from phthisis, Dr. Jagielski asks, "What is there in common in those countries (where immunity from phthisis is found to exist in a greater or lesser degree) likely to shield their inhabitants from this dread disease?" The Tartar Steppes are visited, not only for their pure air, but for that renowned beverage, koumiss, which is believed, by many medical men, to be the one thing! that can check consumption. The general results attained are marvellous. Coincidentally, it happens that in Iceland, the Faroe and Shetland Isles, the favourite drink is likewise a partially fermented liquor made from whey; and Dr. Charlton says that, "in proportion as the drink (called 'Bland') has fallen into desuetude in Shetland, where we often enjoyed it forty years ago, and been substituted by tea and coffee, so has phthisis increased". The importance of this kind of diet, Dr. Jagielski believes, cannot be exaggerated.

23. *Jacobi on Dangers of Chlorate of Potassa*.—Chlorate of potassa is by no means an indifferent remedy. It can prove, and has proved, dangerous and fatal in a number of instances, producing one of the most dangerous diseases—acute nephritis. We are not very careful in regard to the doses of alkalis in general, but in regard to the chlorate we ought to be very particular, the more so as the drug, from its well-known either authentic or alleged effects, has risen or descended into the ranks of popular medicines. Chlorate of potassa or soda is used perhaps more than any other drug. Its doses in domestic administration are not weighed, but estimated; it is not bought by the dram or ounce, but the ten to twenty cents' worth. It is given indiscriminately to young and old for days or even weeks, for the public are more given to taking hold of a remedy than to heed warnings, and the profession are no better in many respects. Besides, acute nephritis is a much more frequent occurrence now than it was twenty years ago. Chronic nephritis is certainly met with much oftener than formerly, and many a death-certificate ought to bear the inscription of

nephritis instead of meningitis, convulsions, or acute pulmonary oedema. Why is this? Partly, assuredly, because for twenty years past diphtheria has given rise to numerous cases of nephritis; partly, however, because of the recklessness with which chlorate of potassa has become a popular remedy.

24. *Landrieux on the Use of Chlorhydrate of Pilocarpine in Pleurisy*.—The author says that he has obtained very good results in pleurisy from hypodermic injections of an aqueous infusion of jaborandi leaves. The strength of the infusion is from 3 to 4 grammes to 100 to 150 grammes of water. If a solution of the alkaline salt is injected instead, a dose of 1 decigramme will be found sufficient. The strength of the solution is 1.10. Notwithstanding this very high dose, the author assures us that he has never known of an accident.

25. *Mulheron and Rice on New Remedies*.—Dr. J. J. Mulheron, of Detroit, gives additional testimony to the value of eucalyptus globulus in subacute cystitis. He uses it in doses of ℥xx of the fluid extract every four hours. Dr. A. S. Rockwell, of New York, reviews the history of *Viburnum prunifolium*, or black haw, and as the result of the experience of others and himself, endorses its use in certain kinds of dysmenorrhœa. The cases in which the drug is indicated are those of delicate nervous women, in whom the pain is due to slight flexions, slight endocervicitis, partial stenosis, or where it is neuralgic in character. Black haw may be classed as an anodyne, antispasmodic and tonic. It is given in infusion, tincture, or fluid extract, the dose of the latter being about 3 ss. every one or three hours. Dr. John B. Rice relates a case in which the tincture of *Thuja occidentalis* seemed to cure a case of epithelioma of the lip. The patient took fourteen drachms daily. This drug was first brought into prominence by Dr. J. R. Leaming, of New York, in 1877, and he has had similar successful results in his own practice. It is not pretended that it is always a specific, but it seems to be often very beneficial and occasionally even curative in these affections. The new laxative *Cascara sagrada* seems to be taking its place as a tolerably useful remedy.

26. *Mueller on the Manufacture of Lead Plaster*.—The process recommended by Jul. Mueller yields an excellent plaster with very little trouble. He directs us to melt 15 lbs. of lard with 15 lbs. of olive oil in a large copper kettle, and add immediately six lbs. of hot water; then add, through a sieve, with constant stirring, 15 lbs. litharge, previously heated until entirely free from carbonic acid (i.e., until a little, mixed with nitric acid, causes no effervescences). The mixture is to be set aside for twelve hours, and then boiled with a moderate heat for two to two and a half hours, without adding any more water, when the plaster will be finished.

27. *Péter on the Treatment of Diarrhœa in Tuberculous Patients*.—The following dietetic rules for the treatment of diarrhœa in tuberculous patients are given by M. Péter:—1. Diarrhœa owing to catarrh of the stomach. Give subnitrate of bismuth dissolved in a little water. Strict diet. If cod-liver oil disagrees with the patient, koumiss must be given in its stead. A teaspoonful of limewater must be added to every cup of milk which the patient drinks. 2. Diarrhœa caused by excess of food and insufficient digestion. Give one and a half grammes of ipecac. to cause vomiting, and a purgative the next day. The diet must be carefully regulated. 3. Diarrhœa owing to gastro-enteritis caused by

ulcerations. Strict diet: very little milk, a soft-boiled egg without bread, or beaten up in beef-tea, raw grated meat, about 20 grammes at a time, blisters on the epigastrium, bismuth, diascordium, theriæ, laudanum. The skin of the abdomen must be rubbed with Cologne water, alcohol, etc., or large blisters applied. Nitrate of silver may be given in pills, containing 1 centigramme each, increasing gradually to 5 centigrammes. Graves even went as far as 25 centigrammes *pro dosi*.

29. *Roussel's Mixture for Amenorrhœa and Dysmenorrhœa*.—Tincture of cuscuta, 15 drops; tincture of nux vomica, 15 drops; tincture of belladonna, 15 drops; tincture of cinchona, 16 drops; orange-flower water, 9 gm., or 150 min.; syrup, 30 gm., or 1 fl. oz.; distilled water, 180 gm., or 6 fl. oz. Dose: A tablespoonful every three hours.

30. *Shand on Purpura Hæmorrhagica, treated by Faradisation*.—Dr. J. C. Shand reports an interesting case of purpura in a girl, aged eight years, which resisted all ordinary methods of treatment. One evening, when she was having most severe and bloody discharges by the bowels and vagina, and appeared bloodless, collapsed and dying, Mr. Shand applied the interrupted current, running over the whole surface of the body by means of sponges, repeating the application every two hours. Next day she was much improved, and the bleeding had nearly ceased. Under quinine and general tonics she made a speedy recovery.

31. *Simon's Tonic Powders*.—Powdered yellow cinchona, 10 gm., or 154 grains; prepared chalk, 10 gm., or 154 grains; rhubarb, 5 gm., or 77 grains; subcarbonate of iron, 4 gm., or 62 grains. Dose: a pinch (about 10 grains) before each meal.

32. *Southam on the Hot-Air Bath in Hydrophobia*.—A young woman, aged twenty-eight years, was admitted into the Royal Infirmary, Manchester, nearly six weeks after being bitten by a rabid dog. Curare was exhibited, but respiratory efforts became more and more difficult, with a sense of intense suffocation and inability to clear the throat of mucus. The patient was therefore wrapped in blankets, placed under a cage, with a large spirit-lamp burning beneath the cage. In less than a quarter of an hour a marked change occurred, spasms became less frequent, and disappeared in half an hour subsequently, the breathing becoming more regular and less rapid. The treatment was continued for an hour and a half with great comfort to the patient, who lay quietly in bed, feeling perfectly easy, and expressing a desire to go to sleep, as well as her gratitude for the relief afforded. She dropped off into sleeps of fifteen to twenty minutes' duration, but suddenly awakening from a calm sleep, that had lasted half an hour, in a violent paroxysm, she started up in bed, discharged saliva copiously, and died very suddenly from spasm of the glottis two hours after the hot-air bath had been discontinued. [In *The Lancet*, February 1868, p. 222, Dr. Peter Hood reports a case of a French physician who decided to destroy himself by a hot-bath rather than endure the agonies of hydrophobia, but who, finding the relief afforded so great, altered his plans, and was eventually restored to health. This, doubtless, is the same case as M. Bouisson's, reported in *The Lancet*, September 1877, p. 478, who, subsequently, is reported to have successfully treated eighty cases of hydrophobia by means of the Turkish bath. In the subsequent numbers of *The Lancet*, for the same year, are numerous interesting communications upon the same mode of treatment.—*Rep.*]

33. *Tasteless Cinchona Mixture*.—A tasteless cinchona mixture is prepared as follows. Mix twelve parts of cinchona alkaloid with sixty of sugar of milk and one part only of bicarbonate of soda. This will readily mix with milk or cream and form a tasteless compound.

34. *Tincture of Hamamelis as a Styptic*.—Several communications extolling the use of this newly-reported American remedy appear in *The Lancet*. Whether it will prove more serviceable than many in the long list of vegetable astringents that we now possess remains to be tested. The tincture is made from the American hazel, *Hamamelis Virginica*. N.

35. *Teevan on Milk Diet in Chronic Cystitis*.—Mr. Teevan relates a case of chronic cystitis which he treated by an exclusive milk diet. An enema having been first administered, the patient took a pint of milk every two hours. The urine soon presented the appearance of a mixture of mucus and pus, and the patient vomited clots of coagulated milk. In a short time the vomitings became more frequent, but the urine became quite clear, and the patient left the hospital in perfect health after continuing this treatment for about a fortnight. In commenting on this fact, Mr. Teevan remarks that he obtained very good results from the same treatment in soothing the irritation which is caused by the operation for lithotomy. The effects of an exclusive milk diet on the urinary organs and the secretions of urine are well-known in cases of incontinence of urine in children. This disease is often cured simply by not giving them any meat, and restricting them to a milk diet. If the latter should not be found sufficiently nourishing, a combined milk and fish diet will be found very useful.

36. *Wade on Chloric Acid*.—Setting out from the hypothesis that the remedial virtues of potassium chlorate are due, wholly or in great part, to the liberation of its acid by contact with that of the gastric juice, Dr. Wade proposes to substitute chloric acid itself for the salt customarily employed. This acid is a powerful antiseptic and oxidising agent, it is freely soluble in water, it is a good solvent of the alkaloids and their salts; finally, it should be preferred to potassium chlorate when for any reason we may believe that the stomach is incompetent to decompose the chlorate for itself. The following is a convenient formula for the preparation of the acid: potassium chlorate, 360 grains; tartaric acid, 440 grains; water, 3 fluid ounces. Dissolve the salt in two-thirds of the water by the aid of heat. Before cooling, add the acid, previously dissolved in one-third of the water. After cooling and completion of precipitation, decant. Each fluid drachm of the finished product contains the acid of about 15 grains of potassium chlorate. It is a heavy fluid, and presents the general appearance, taste, and smell common to the dilute mineral acids. From one fourth to one fluid drachm, largely diluted, may be given without inconvenience, in diphtheria, dyspepsia, etc.

PATHOLOGY.

RECENT PAPERS.

1. ANDRÉ, JULES.—Études d'histologie Pathologique. Première partie. (Corbeil, Paris, 1879.)
2. BASSAGET, J. A.—Traité d'hématologie Dynamique pour servir de Fondement à un Système de Pathologie Vitaliste. (Montpel., 1879, 8vo.)

3. **BENEKE**.—On the Growth of the Heart and Great Vessels. (*Virchow's Archiv.*)
4. **GAY, M.**—Sull abbassamento della Temperature dopo morte. (*Osservatore Torino*, 1879, xv, 297-302.)
5. **KRIEGER**.—On a case of Gynæcomazia.
6. **LEMMON, R. H.**—Organic Forms in their Relation to Systemic Disease. (*Virginia Med. Month.*, Richmond, 1879-80, vi, 169, 278.)
7. **LEVINSKI**.—On the State of the Circulatory Organs in Chlorosis. (*Virchow's Archiv.*)
8. **MAIXNER**.—On Peptonuria. (*Ibid.*)
9. **SCHULZE**.—On Lateral Sclerosis. (*Ibid.*)
10. **VALLIN**.—On a Peculiar Alteration of the Jaw Bones in Ataxic Patients, with Consecutive Loss of Teeth.
11. **WITTELSHOFFER**.—On Congenital Abnormal Development of the Extremities.

3. *Beneke on the Growth of the Heart and Great Vessels*.—From 350 estimations of the volume of the heart, and 620 measurements of the vessels, he concludes that:—1. The growth of the heart is greatest in the first and second years of life; by the end of the second year, the heart has doubled in size. In the next five years its growth is slower, and but a gradual increase commences after this period, up to the age of 15, when it is two-thirds greater than it was at 7 years of age. After puberty the heart grows more rapidly, and in proportion to the sexual development, increasing to two-thirds its original volume in the succeeding five years. After this it grows more slowly, but continues to enlarge up to 50, increasing about 1 cubic centimetre per annum, and subsequently a diminution occurs which may be regarded as senile atrophy. 2. The heart is the same in children of both sexes up to puberty. After which the female heart remains the smaller, being from 20 to 30 cubic centimetres less. 3. All the great vessels continue to increase in size from the beginning of life to its end. 4. This increase in size of the great vessels is relatively greatest in the first years of life, but like the heart, their growth is quickened at puberty. 5. The pulmonary artery up to the age of 45 is wider than the descending aorta. After this the relation changes, and the descending aorta gradually becomes the wider. 6. Up to puberty the common carotid is not noticeably wider than the common iliac and subclavian, but after that period the latter are much the wider. 7. The vessels in the female are throughout life narrower than in the male. Previous to puberty the number of observations have been too small to make this quite certain. 8. The vessels are relatively narrowest in proportion to the length of the body at puberty. Taking this, together with above described development of the heart at puberty, he infers that the blood pressure is relatively highest at that period. 9. Relatively to the length of the body, the pulmonary artery in the female at puberty is wider than in the male. 10. The pulmonary artery and descending aorta increase relatively more during life than the iliacs, subclavians, and carotids. He infers from this that, as life advances, the blood pressure must fall in the aorta, while it rises in the peripheral arteries. 11. Immediately after birth the aorta and pulmonary artery increase, while the iliacs decrease in consequence of the cessation of the foetal circulation. 12. The blood pressure appears to play an important part in determining the widening of the vessels. 13. The maxima and minima circumferences of the great vessels vary to an extraordinary degree in different persons,

especially as life advances; but these may be explained by differences in the length of the body. There also seems reason to believe in great differences in the total blood mass in different individuals. 14. Cases of cancer seemed to have wider vessels than were found in otherwise diseased or healthy persons.

5. *Krieger on a Case of Gynæcomazia*.—The author reports a peculiar case of gynæcomazia which came under his notice some time ago. The patient was a boy, aged 7, who complained that his breasts had begun to swell for some time past, and that a fluid dropped from them. The history of the boy was good; there was nothing abnormal in his outer appearance. The breasts had been swollen during the previous week, and the secretion had oozed out of them. The boy's general health was not impaired by this phenomenon. On examining his breast, it was found that the mammæ resembled those of a girl aged 13 or 14. They were slightly pointed, the skin being very thin, delicate, and transparent. There were no long hairs on them. Both papillæ were small and flat. Beneath the right papillæ was a tumour of the size of a Spanish nut, beneath the left another tumour as big as a walnut; both were covered with small nodules, and not painful to pressure. On pressing the papillæ slightly, or even when they were not subjected to pressure, small drops of a milky liquid oozed out of them. The fluid was alkaline, had a sweetish taste, and exhibited under the microscope a small number of milk globules, and epithelium from the milk glands. The fluid oozed out more or less continually. No treatment was undertaken in this case.

7. *Levinski on the State of the Circulatory Organs in Chlorosis*.—Dr. L. Levinski disputes the view that the stenosis of the aorta in chlorosis either can or does give rise to cardiac hypertrophy. The stenosis, he says, is compensated by the greater elasticity of the wall of the vessel. There is no evidence in accentuation of the aortic second sound that the blood-pressure in the aorta is raised. There is no clinical evidence of hypertrophy of the heart. The real condition is one of want of energy in the cardiac muscle due to the want of oxygen in the blood, and any hyperplasia that occurs does not do more than compensate for this. The mitral insufficiency is not due to relaxation of the wall of the ventricle so much as to incapacity of the papillary muscles. According to his observations on the heart of a curarised dog, during the systole, the papillary muscles come together and draw down the mitral valve tightly into a funnel-shape, approximating the mitral orifice to the heart's apex, and narrowing it slightly. When these muscles are weakened they cannot properly close the valve, and when the ventricle is dilated they do not come together during the systole, so that part of the blood is discharged through the mitral orifice, and in course of time dilates it.

8. *Maixner on Peptonuria*.—Dr. Em. Maixner states that he has found pepton present constantly in the urine of all cases of pleural and peritoneal exudations, abscesses, purulent bronchitis, the resolution of croupous pneumonia. He has always found it in all specimens of pus. On the other hand, he has never found it in simple or renal albuminuria, or in general diseases and acute infectious processes, excepting in one case of typhus, one of cancer of the liver, one of intestinal catarrh, and two cases of phosphorus-poisoning.

9. *Schulze on Lateral Sclerosis.*—R. Schulze has described a case of spastic paralysis, apparently primary, which, on *post mortem* examination, was found to be due to a cyst in the situation of the left olivary body extending to the right, and, in the cord, there was secondary sclerosis in both lateral columns. In a second case, apparently typical at first, symptoms (giddiness, double sight, vomiting) developed, which caused a basal cerebral tumour to be diagnosed. The autopsy confirmed this, and the cord was found healthy. In a third case, *post mortem* examination showed a colossal hydrocephalus internus, and a completely healthy cord. Schulze does not believe in the existence of primary lateral sclerosis of the cord. R. SAUNDBY, M.D.

10. *Vallin on a Peculiar Alteration of the Jaw-bones in Ataxic Patients, with Consecutive Loss of Teeth.*—At a recent meeting of the Soc. Méd. des Hôpitaux, M. Vallin spoke of the peculiar changes which take place in the maxillæ of ataxic patients. He has repeatedly noticed that the teeth of these patients fall out without any previous pain or caries. The osseous tissue which surrounds the alveoli gradually becomes thin, the tooth begins to loosen, and finally falls out. This trophic alteration of the maxillæ, which is a kind of nonsenile osteoporosis, has not yet been mentioned among the symptoms of locomotor ataxy; it is, however, well worthy of notice, as it may be an early symptom of the affection. M. Vallin's observations were corroborated by MM. Luys and Lereboullet. The latter mentioned a case which had come under his own notice where the symptoms of locomotor ataxy were only fully developed a long time after the patient had lost a certain number of his teeth.

10. *Weiss on Reflexes in the Spinal Cord.*—The following cases are reported by Dr. Weiss. A man, aged 26, had received a blow on the neck. This was immediately followed by paraplegia and anæsthesia of the lower extremities. The upper extremities had remained normal, with the exception of occasional tonic spasms of the flexor muscles. Reflex irritability was extinct on the lower extremities, and the remaining anæsthetic parts of the body, and remained so till the patient's death, which ensued on the third day after the accident. The bladder and rectum were paralysed. The *post mortem* examination revealed a fracture of the sixth cervical vertebra, which had involved destruction of the cord at the corresponding place. The other case is that of a man, aged 36, who had fallen down unconscious after a leap. Both upper and lower extremities were paralysed. Sensibility was extinct in the lower extremities, and the trunk up to the nipples, bladder and rectum, were paralysed. The *post mortem* examination showed that the ligament between the fifth and sixth cervical vertebrae had been divided; the vertebrae were dislocated, and the cord destroyed. This seems to prove that the reflex irritability of the cord decreases immediately after it has been separated from the brain, and that this condition lasts for some time.

11. *Wittelshöfer on Congenital Abnormal Development of the Extremities.*—Herr Wittelshöfer has published a résumé of 46 cases of abnormal development of the extremities; two of these cases have come under his own personal observation. One of these two cases is that of a girl aged 14 who, from her birth, had presented an abnormal development of the third and fourth fingers of her left hand. Both fingers were united, and had reached such a

size that it was found necessary to extirpate them. The length of the whole mass was 17 centimètres, its largest circumference 29 centimètres. The secretion of sweat was remarkably strong on the affected parts; the patient herself was very fat. The second case is that of a sickly boy, aged 11, whose lower left foot was hypertrophic, especially the third, fourth, and fifth toes, which formed a tumour of 38 centimètres circumference. This monstrosity occurs more frequently in the upper limbs (31 cases) than in the lower (22 cases); the right half of the body seems also to be more frequently affected than the left. The third finger or toe appears to be more liable to become hypertrophic than the other fingers or toes, but in most cases the neighbouring members become also affected. In 13 cases, the disease had remained restricted to one finger or toe alone; in 23 cases, to two; in 11 cases, to three. In 1 single case, the fifth toe had also become hypertrophic. In 3 cases, both hands were affected; in 1 case, both feet; in 2 cases, both extremities on the same side; in 1 case, the left upper and right lower extremity were hypertrophic. The disease never attacked more than two extremities of the same individual. Both extremities were not always symmetrically affected. It has been proved by careful measurement that in all cases of macrodactylia the whole extremity is enlarged. This affection appears to be congenital, but not hereditary. It is a curious fact that this affection is very frequently combined with syndactylia and abnormal development of the adipose tissue.

SURGERY.

RECENT PAPERS.

1. ANGER.—Périostite du Maxillaire Inférieur. (*Progrès Méd.*, Paris, 1879, vii, 479-481.)
2. BAGINSKY.—Zur Casuistik der Infectiösen Periostritis und Osteomyelitis. (*Centrbl. f. Kinderh.*, Berlin, 1879, ii, 310-312.)
3. BETTELHEIM.—Bark Splints. (*Med.-Chir. Centrbl.*, No. 28, 1879.)
4. BILLROTH.—Thrombosis Cavernosa. (*Allg. Med. Centr. Zeit.*, No. 51, 1879.)
5. BROMALL.—Colpo-cystotomy. (*Phil. Med. Times*, August 1879.)
6. Cases from the Bericht der Krankenanstalt Rudolfstiftung in Vienna for 1877.
7. COLIN.—Recherches sur l'Ostéomyélite. (*Bull. Acad. de Méd.*, Paris, 1879, 2 s., viii, 683-700.)
8. DANDRIDGE.—Temperature in Fractures of the Skull. (*American Pract.*)
9. DUPLAY.—Eczema on Amputated Stumps. (*Bull. Gén. de Thérap.*, 15 July, 1879.)
10. GROSS.—Club-foot. (*Phil. Med. Times*, 1879, ix.)
11. HILLIS.—Cure for Hydrocele.
12. KIRCHHOFF.—Hydrophobic Tetanus. (*Berl. Klin. Woch.*, 1879, No. 25.)
13. LE DENTU.—Myotomie Souscutanée. (*Bull. et Mém. Soc. de Chir. de Paris*, 1879, v, 408-419.)
14. LUMNIEGER.—Gunshot-wound of the Knee-joint. (*Fest. Med. Chir. Press.*, No. 3, 1879.)
15. MADELUNG.—Anatomy and Surgery of the Accessory Thyroid Gland. (*Langemb. Arch. f. Klin. Chir.*, vol. xxiv, 1 Heft, p. 71-107.)
16. MARSHALL.—Pulpy Degeneration of the Knee. (*Med. Times and Gas.*, 1879, ii, 33, London.)
17. PILCHER.—Surgical Operations on the Kidneys.

18. RAFINESQUE.—Chronic Intestinal Invaginations. (*Thèse de Paris*, 1879.)
 19. Short Directions for Lister's Dressing.
 20. SCHÜLLER.—Experimental Studies on the Etiology of Scrofulous and Tuberculous Inflammation of the Joints. (*Centrbl. f. Chir.*, No. 19, 1879.)
 21. TAYLOR.—Self-Retaining Catheter.
 22. WÖEFLER.—Surgical Treatment of Gout. (*Langenh. Arch.*, Band 24, Heft 1.)
 23. VANCE.—New Removable Paper Brace. (*Hosp. Gaz.*, N. Y., 1879, vi, 308-310.)

3. *Bettelheim on Bark Splints*.—Dr. Bettelheim says that for several years he has, in treating fractures, used splints made from the bark of branches of cherry and plum trees. The bark is peeled off in autumn from the green branches, and kept till used. Before the splints are applied, they are put into hot water for about a quarter of an hour. In this way they become quite soft, and may be twisted into any particular form, which they retain after having grown cold and hard.

4. *Billroth on Thrombosis Cavernosa*.—At a meeting of the Society of Physicians in Vienna, Prof. Billroth reported a case of spontaneous gangrene which came under his notice in the course of last year. The patient was a strong-built man, aged 47, who for the last five years had been getting gradually more and more weak. Standing about, walking, and riding fatigued him very much. No cause could be discovered to explain this peculiar condition. Neither the heart nor the arteries were affected. Last summer the patient had his corns cut by a barber, after which operation an abscess broke out on the big toe, which would not heal. It was a gangrene of the big toe, such as is only seen in cases of senile gangrene. The patient suffered excruciating pains; for some time a line of demarcation seemed to be forming, then he had again violent pains, the gangrene spread to the second toe, and six weeks later the man was reduced to a perfect skeleton. Prof. Billroth then resolved to resort to amputation of the leg, although he did not believe that the patient would survive the operation. To his surprise, however, the wound healed well, the patient recovered, and does very well now. On examining the stump, the arteries were found to contain vascularised tissue, which might easily have been taken for common blood-clots. A second intima had formed within the arteries, and the openings of small vessels could distinctly be seen in the thrombus. This formation of vessels within the thrombus explains sufficiently why the gangrenous process did not spread more rapidly. Billroth has designated this affection, *Thrombosis cavernosa*. It is generally thought to be caused by syphilis, but the patient positively asserted that neither he nor any member of his family had ever had syphilis. As he still suffered pain in the stump of his leg, Billroth put him through an antisyphilitic treatment, consisting of the internal use of iodide of potass and rubbing with belladonna and ung. cin., which had a soothing effect. Billroth thinks that similar processes occur more frequently than is generally supposed.

5. *On Removal of Stone from the Female Bladder by Colpo-cystotomy and Perforation*.—Dr. Anna Bromall, physician in charge of the Women's Hospital of Philadelphia, is reported to have recently removed a large stone weighing five ounces from the female bladder in the following way. A small opening was made through the vesico-vaginal septum

into the bladder, and the surface of the calculus exposed. The stone was then perforated in various directions by lightly pressing upon it with the diamond drill of Bonwill's dental engine (reported in the *American Journal of Medical Sciences* for January 1879, p. 143), moving at the rate of 10,000 revolutions per minute. The drill cut through the stone as if it were a piece of wax. Afterwards the calculus was easily broken and brought away by a small pair of bone forceps. The patient was failing at the time. There was no shock from the operation, but she died in ten days from a large abscess in the kidney. The bladder surface is reported to have been found, on examination, free from injury or contusion. [This plan can only be necessary when a stone is of enormous size, and the bladder must always run great risk of injury; still it is well worthy of being placed on record. Although the principle is the same, this method is an improvement upon the old-fashioned operation with the "Perce-pierre".—*Rep.*] G. BUCKSTON BROWNE.

6. *Cases from the Bericht of the Krankenanstalt Rudolfstiftung in Vienna in the Year 1877*.—Case 25. A locksmith, aged 25, had been suffering since his childhood from a cystic goitre, which had increased so much in size during the last three years as to become troublesome. Iodine injections into the larger cysts having proved ineffectual, the whole growth was extirpated with the exception of a small portion beneath the left rectus cap. ant. The extirpated tumour weighed 350 grammes. The wound was washed out with chlorate of zinc and dressed antiseptically. At first all went well, but later on the wound became offensive, and had to be irrigated daily. On the fifteenth day a violent hæmorrhage took place from the eroded right carotid. The vessel was ligated, but the hæmorrhage recurred the next day. The patient died of exhaustion. The opening in the carotid was 18 millimètres above the central end of the vessel.—Case 26 is that of a hygroma situated on the left of the thyroid cartilage and reaching to the hyoid bone. It was extirpated, and the wound healed.—Case 32. A multilocular blood cyst in the posterior portion of the left labium of a girl aged 25, was slit open, partially excised, and the remainder treated with nitric acid. The wound healed by granulation.—Case 36 is that of a carcinoma of the thumb, which had developed in the cicatrix of an operation performed thirty-two years since. The immediate cause of it had been a fresh wound which, however, soon healed.—Case 37. Carcinoma of the occiput in a woman aged 63. It had developed from an atheroma which had lasted for twelve years.—Case 41 was one of carcinoma of the bladder. Both ureters had become much reduced in size at their opening into the bladder. The upper portion of the ureters, as well as the pelvis of the kidneys, were found to be much dilated at the *post mortem* examination.—Case 138. A woman, aged 49, had four coprolithi firmly embedded in the wall of the rectum. They simulated a hard solid swelling. The patient was put under chloroform, and attempts were made to extirpate the growth when its true nature was discovered. The stones were extracted and the patient recovered.—Case 150. A case of rupture of the intestines in a labouring man, aged 70. The patient wore a truss for hernia of the small intestine. In getting down from a cart the pad of the truss was caught in something, and then suddenly jerked back on the intestine which had protruded. The patient died within forty-four

hours of peritonitis.—Cases 165-168 are the histories of four ovarian tumours. In the two first, ovariectomy was performed, and the patients died of peritonitis. The third case was one of a suppurating cystoma, which was punctured with a curved trocar. It had been intended to push the instrument through the parietal walls on the opposite side of the abdomen, so as to make the cyst unite with the abdominal wall. Unhappily, however, the trocar was not long enough, and some pus escaped into the abdominal cavity. The patient died of peritonitis. The fourth case is a very interesting one. The patient, a woman aged 29, had had both ovaries removed nine years ago, and had menstruated regularly for seven years and three months, when a new tumour began to form in the abdominal cavity. The growth was larger than a man's head, soft, elastic, nodulated; it reached from the navel to the symphysis, and had a broad pedicle. A few intestinal loops could also be felt. The skin was smooth and normal. A large piece of the abdominal skin was excised, an opening made into the abdominal cavity, and the pediculated tumours which grew on the left side of the uterus extirpated. The growth was a multilocular cyst, originating from the remains of the pedicle of the ovaries; the pedicle consisted of the tuba and the ligament of the ovarium. The patient recovered.—Case 180 is a curious case of universal scleroderma. The patient, a girl of 17, had eight months ago noticed swellings on the astragalus, knee, and wrist joints. These were followed soon by a hard swelling on both cheeks. Gradually the skin over the whole body, with the exception of the neck, became infiltrated. It was of a brownish hue, and shiny in some parts. The patient was unable to move freely, and resembled a statue. All treatment was of no avail. The patient was taken ill with pericarditis, which was afterwards followed by a severe gastrointestinal catarrh, and an eruption of urticaria. She did not survive the latter complication. The microscopic examination of the skin revealed a considerable deposit of pigment cells in the rete mucosum and the corpus papillari, principally in the vicinity of the blood-vessels. The cutis was very thin, the subcutaneous connective tissue contained very few fat cells, but had been changed into a thick callous tissue. The pericardial sac had grown to the heart, and the latter organ itself had undergone fatty degeneration.

8. *Dandridge on Temperature in Fractures of the Skull.*—Dr. N. P. Dandridge gives several cases of this injury, concluding with the following observation. The practical conclusion to be derived from the above cases is apparent. If, some time after (probably not more than some hours) an injury to the head, coma and hemiplegia develop themselves, and no fever is present, you may fairly infer that compression is being produced by a slowly forming hæmorrhage, external to the membranes; and in this case the trephine offers prospects for relief. If, however, with coma and hemiplegia there is a high temperature, and especially if these conditions develop some days after the accident, you may expect a diffuse arachnitis, and there is little or no hope from operation.

9. *Duplay on the Outbreak of Eczema on Amputated Stumps.*—At a recent meeting of the Soc. de Chir. de Paris, M. Duplay said that he had seen two cases of an acute eczema breaking out on the extremity of amputated stumps. One case was that of a man who had had his arm amputated for phlegmon of the tendon sheaths and suppurated

arthritis; the other patient had had his leg amputated for fracture. Neither of them had suffered before from arthritis or herpetic affections. Neither had there been any other inflammatory phenomenon on the extremity of the stump. In both cases the eczemata healed within six months. This eruption appears to be caused by a neuritis of the nerves of the stump, and ought to be considered as an affection of the trophic centres, though the real cause of it is still unknown to us. The affection in itself is not dangerous, but tedious, because it prevents the application of a prosthetic apparatus. The treatment is the same as in ordinary eczemata, and the affection may be said to heal of its own account.

11. *Hillis on Radical Cure of Hydrocele.*—Mr. Hillis having had much experience of the treatment of hydrocele in British Guiana, and having been disappointed with the results obtained by using iodine in the proportion of one of tincture to two or three parts of water, was induced to try the undiluted tincture of the *British Pharmacopœia*. Two to four drachms are thrown into the sac after tapping, and the sac gently manipulated for some time. Cases of previous failure, cured by this plan, are reported in order to impress upon the profession the real value of this old, yet often forgotten, suggestion.

12. *Kirchhoff on a case of Hydrophobic Tetanus.*—An interesting case of hydrophobic tetanus is reported by Dr. Kirchhoff. The patient, a woman aged 52, happened to fall with her face into some briars. Several of the thorns penetrated her face, but were immediately drawn out by another woman who happened to be with her. In the course of the week following the accident the patient's face was much swollen, then she found it impossible to open her mouth; both deglutition and respiration were much impaired. On the seventh day she fell into convulsions; on the eighth day the left facial nerve had become paralysed. When first seen in the hospital, she was in a half-sitting half-couching position, clutching at her lower lip, and trying to pull it down with both hands. A stream of saliva ran out of the mouth, had macerated the epidermis of the finger tips and soaked her clothing. Respiration was frequent, the inspiration was not hindered, but every expiration was followed by a short groan, while at the same time a perfect shower of saliva came out of her mouth. Simultaneously her back became more arched, and the head and thorax were slightly turned to the right. The right eye was closed, the left only partially so, the right corner of the mouth was higher than the left, and was drawn towards the right. The pupils were alike and narrow; they reacted to light, and moved normally. On keeping the mouth forcibly open, inspiratory raising of the velum of the palate could be seen. In the left temporal region was a small abscess, which, on being touched, evoked strong tetanic convulsions of the thorax. At the same time the face was drawn more towards the right. The patient was put under chloroform, and an incision made in the wound, whereupon a thorn three centimetres long was extracted. The patient was offered some water to drink, at the mere sight of which she seemed to be filled with horror. It was impossible to make her swallow some with a spoon. The opisthotonos became worse, the head was distinctly drawn backwards. The extremities did not take part in the convulsions. The urine contained albumen. The faradic contractility of the muscles of the left side of the face had not been destroyed; it was, however, much weakened when the stimulus was applied to that

portion of the facial nerve which runs out of the stylo-mastoid foramen. This proved that the paralysis was of peripheral origin. The patient was very cyanotic; her pulse was small and frequent. A systolic blowing murmur could be heard at the apex of the heart. The left trifacial nerve was not affected, as seen by pricking the patient's face with a needle, for the right half contracted with an evident expression of pain. The patient was treated with large doses of bromide of potassium and chloral hydrate. She died on the second day of her stay in the hospital. Two hours before her death, the temperature was 101.2° ; ten minutes after death, 104° in the vagina. It is noteworthy that the patient had never been bitten by a dog. At the *post mortem* examination, a cyst of the size of a pea was found in the left corpus striatum; below it was a small greyish focus. The pons and medulla were soft and dotted with pink spots, but apparently normal. The spinal cord was in the same condition. On examining it with the microscope, very numerous corpora amylacea were found in the brain and cord. The thoracic and abdominal viscera did not present any remarkable changes. The left facial nerve was microscopically examined, but no pathological alterations could be detected in it. Reflections: It was very difficult in this case to make correct diagnosis at once, as many of the symptoms, *e.g.*, the unilateral paralysis of the facial nerve, the impossibility to swallow, the convulsions and expression of terror at the sight of fluid, and the restlessness of the patient, seemed all to point more towards hydrophobia. At the same time, the opisthotonos, the contraction of the abdominal and masseter muscles all betoken tetanus, as well as the convulsions which were synchronous with the expiration. It seems that Rose has been the only one to notice this peculiar form of tetanus. He has also given it the name of hydrophobic tetanus. Dr. Kirchhoff supposes that in this case the tetanus was owing to a pressure on, or injury of, the facial nerve, and that the tetanus was merely a reflex act.

14. *Lumniczer on Gunshot Wound of the Knee-Joint.*—Dr. Lumniczer reports a case of gunshot wound of the right knee. The shot had entered the joint near the patella. The patient was put under chloroform, the wound enlarged, and the cavity of the joint examined with finger. The ball, which had slipped from the intercondylic fossa under the tendon of the quadriceps muscle, was then extracted. A depression caused by the ball was on the internal condyle of the femur. A counter opening was made on the external edge of the patella, the joint washed with a 3 per cent. solution of carbolic acid, a drainage tube inserted, and antiseptic dressing applied. There was no suppuration, and the temperature only once rose to 101° . The drainage tubes were removed on the eighth day. On the twenty-third day the patient could walk alone, and six weeks later the knee could be bent beyond an angle of 90° .

15. *Madelung: Contributions to the Anatomy and Surgery of the Accessory Thyroid Gland.*—The author has published a very able paper on accessory thyroid glands. The conclusions he has arrived at are as follows. Accessory glands are due to some fetal malformation or abnormality. Analogies are frequently met with in the spleen, liver, prostatic gland, the ovaries, the hypophysis cerebri, the ovaries, etc., where accessory glands are often found. He proposes to classify the accessory thyroid glands in five principal groups, according to the position they occupy with reference to the principal

gland, viz., glandulæ thyroideæ accessoræ, superiores, inferiores, laterales, anticæ et posticæ. The vessels which belong to these glands are for the greater part branches from the thyroid vessels; in very few cases they have been traced back to the crico-thyroid vessels. The structure of the accessory glands closely resembles that of the principal gland; they are mostly round or oval, though they may also be flat or bent like a hook, or have long slender processes. They vary in size from a pea to a French bean; the biggest have been found among the gland. thyr. access. superiores. The malformation is not hereditary, though it seems as if some nationalities had a greater tendency to it. They are found more frequently in women than in men, and on the right side of the thyroid gland than on the left, and are often mistaken for lymphoid glands. They are very apt to degenerate into cysts, but strumous degeneration is, on the whole, of rare occurrence. The diagnosis of the latter form of this affection is difficult. The following are the principal symptoms. It begins to develop about the age of puberty, on the right side of the throat in a female individual. It is very apt to change its place and become movable. In cases of retro-oesophageal strumata, the superior thyroid arteries form extensive anastomoses. There are also many local symptoms of pressure on the respiratory tract. The patients often suffer much, especially if the posterior or lateral accessory thyroid glands are affected. In some cases death has been caused by the compression of the œsophagus, the respiratory tracts, the impossibility of swallowing, etc., strictures of the trachea, and softening of the cartilages of the trachea and the larynx. The treatment recommended by the author consists in extirpation of the glands, or injections of iodine into the tissues. He has a very high opinion of the latter, and suggests that in cases where the accessory glands are situated between the œsophagus and the spinal column, the injections should take place from the pharynx. In cases of extreme danger, tracheotomy would be indicated. The growth may be extirpated either from the mouth, as Busch and Kocher have frequently done, or by making a long cut along the rectus capitis anterior, after the method adopted by Braun and Kocher.

17. *Pilcher on Surgical Operations on the Kidneys.*—At the conclusion of a recital of a number of operations on the kidneys, Dr. L. S. Pilcher formulates the following propositions as abundantly proven:—(1) Incisions into the substance of a kidney are not in themselves especially dangerous. (2) The kidneys may recover from very considerable lesions, if complications can be averted. (3) Anatomically, the exposure or the removal of a kidney is not especially difficult or dangerous. (4) A single healthy kidney is capable of eliminating sufficient urine for the maintenance of health. These four propositions being accepted, two conclusions logically follow. These Dr. Pilcher submits with a confident belief that they will in time become generally accepted as rules of surgical practice:—I. Incisions into the substance of the kidneys for the exit of retained fluids, or solid concretions, or foreign bodies which have entered from without, or for purposes of exploration, are justifiable. II. When a reasonable certainty exists that one kidney is healthy and the other is the seat of advanced and irremediable disease, its extirpation is justifiable.

18. *Rafinesque on Chronic Intestinal Invaginations.*—This excellent thesis has been written with a view

of investigating more thoroughly than has been hitherto done, a form of intestinal invagination which is little known, viz., the chronic form or simple invagination, which is not in every case complicated with strangulation. According to some authors, chronic intestinal invagination means an invagination which is spontaneously healed in the course of a fortnight or a month, while other writers look upon it merely as upon a peculiar form of the affection, which lasts for an indefinite length of time, M. Rafinesque thinks that this is a distinct form which ought to be classified by itself, and of which he gives the following definition: it is an intussusception with few or no symptoms of strangulation. He agrees with Lobstein in comparing it to a hernia. The anatomico-pathological lesions which take place in this affection may be briefly summed up as follows: the portion of intestine which is on a level with the invagination seems to have a greater tendency to perforate than the portion beneath it; the invaginated parts often remain comparatively healthy, even in cases where the affection has lasted for many months, etc. Invagination may be produced in two different ways. A heavier portion of the intestine may slip into another part of the tract through its own weight; or, by contracting some of the circular fibres, may transform a certain portion of the intestines into a comparatively rigid mass and push it into the nearest intestinal loop, which then closes over it. In both cases the muscular contraction acts upon the invagination as it would upon *feces*. The symptoms of internal strangulation are either absent or not clearly defined. The patient complains of violent colics. In a very few cases the patients vomit; the vomited matter is often bloody, rarely *fecal*. There is diarrhoea; very seldom constipation; in most cases periodical diarrhoea and constipation alternate. In half the cases the stools are bloody; if the tumour is situated in the large intestine there is a good deal of tenesmus. The abdomen is seldom inflated, and as long as no complication exists it is not very tender to pressure. The pathognomonic symptom is the presence of an oblong tumour of varying consistency, which can be felt through the abdominal walls, and which gradually changes its place in the abdomen. The affection may break out suddenly or gradually, but it always progresses slowly. In some cases it presents the characteristic symptoms of a severe organic affection; in other cases the course of the disease is more rapid and resembles dysentery. It may last from two months to one year. The patients die either of prostration and cachexia, or of peritonitis caused by ulcerative or gangrenous perforation, or by the propagation of the inflammation. In cases of invagination of the rectum, death is due to purulent infection. The prognosis of this disease is very grave; if the patients are left to themselves the death-rate is 96 per cent. In cases where surgical treatment has been resorted to, it has sunk to 91 per cent. In treating chronic intestinal invagination, three things must be borne in mind: it is necessary to sustain the patient's strength, to soothe his pains, and to reduce the invagination. Different proceedings and modes of treatment have been employed for the latter purpose, e.g., massage of the abdomen, catheterisation of the rectum, insufflations and injections of fluids into the large intestine. If all these means should fail, gastrotomy must be resorted to, as being the last chance of saving the patient's life. It is often impossible to be certain of the diagnosis of the case,

but in a good many cases it has been possible to form an accurate idea of the nature, the seat and degree of the lesion.

19. *Short Directions for Lister's Dressing.*—In some of the American hospitals the directions for carrying out Lister's treatment are thus conveniently and tersely stated: *a.* Before and during operation.—(1) Carbolic acid spray. Steam passing through a solution of 1 part of carbolic acid in 30 parts of water. As it issues from the jet, the solution contains about 1 part of acid in 40 of water. (2) Sponges, hands of operators, etc., dipped in solution of carbolic acid: 1 in 20. (3) Instruments covered with oil, containing one-tenth part carbolic acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in carbolic acid solution: 1 in 20. *b.* After operation.—(1) A strip of lint soaked in an oily solution of carbolic acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first (and if necessary following) days. Either of them are cut off flush with the edge of the wound. (2) Over this is placed the protective, into which a small hole is cut, corresponding with the end of the drainage tube. The protective consists of a layer of oiled silk, coated on both sides with copal varnish and afterwards brushed over with dextrin, which latter enables it to become uniformly moistened when dipped into solution of carbolic acid (1 in 40). It is thus immersed just before being laid upon the wound, and is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. (3) Two or three layers of gauze dipped in a watery solution of carbolic acid (1 in 40) are next applied. Then (4) Seven layers of the antiseptic gauze, being a cotton fabric of open texture impregnated with a mixture of 5 parts resin, 7 parts paraffin, and 1 part carbolic acid. (5) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (6) Then another layer of antiseptic gauze is applied; and, finally, (7) carbolized bandages, sufficient to retain the dressings, etc.

20. *Schüller: Experimental Studies on the Etiology of Scrofulous and Tuberculous Inflammation of the Joints.*—By injecting small particles of tuberculous human lungs or tuberculous sputa into the lungs of rabbits, either through a tracheal wound or directly through the thoracic walls, the author succeeded in producing a characteristic inflammation of the joint in a knee which had previously been either dislocated or only slightly injured. This inflammation was very similar to the scrofulous and tuberculous affections of the joints to which human beings are liable. The results followed if minute particles of granulations or tissue from scrofulous lymphatic glands or minute particles of lupoid tissue were injected into the lungs through a tracheotomic wound. In some of his experiments, the said substances were injected into the internal jugular vein, or into the abdominal cavity, the results being in all cases the same. According to the author, the inflammations of the joints which are in this way caused, consist partly in a pannous growth of the synovia, partly in granulation of the same. Foci of the size of a pin's head are developed in the epiphysis of the tibia. They contain tubercles. The latter are also found occasionally in the synovial membrane, where they appear to develop in particular points of predilection. It is worthy of notice that after all these experiments, the author found tubercles in the lungs, and frequently also in the liver and in

other organs. In order to ascertain in what way the microscopic organisms which are always present in the matter with which the experiments were performed produce inflammation in the injured joint, the author made the following experiments: 1. For the purpose of finding out whether particles of solid matter could pass from the lungs into the blood or into certain parts of the body which had been previously injured, the author injected powdered flour, colouring matter, etc., into the lungs of rabbits, and injured the knee-joint of one leg. No inflammation ensued, and very few particles of colouring matter could be found in the synovial membrane or in the marrow of the bone. 2. The particles of colouring matter were then mixed with tuberculous sputa. This time the coloured atoms could easily be distinguished in the synovial membrane, and appeared to the naked eye like greyish incrustations. 3. When the bacteriæ of putrefaction were injected into the lungs, the animal always died in from one to five days. The injured joint revealed a slight bloody serous exudation, containing a few solitary pus corpuscles and bacteriæ, like those which had been injected. 4. The same results were obtained by injecting bacteriæ which had been obtained by fractioned breeding. 5. The same characteristic synovitis was caused in the joint by inoculating the animal with a few drops of blood from an animal which had previously been infected with tuberculosis. 6. A series of experiments were performed with antibacterial remedies, which the animal was made to inhale. It was invariably found that the inflammation grew better, but the drugs had no effect whatever on the caseous process of inflammation. The animals seem to live a little longer when these antibacterial remedies have been used. It is evident from these experiments in what way scrofulous or tuberculous inflammation of the joints may develop in man after light injuries, if the person in question happens to be disposed to tuberculosis. Local tuberculosis of the joints in man, is in most cases owing to the presence of a tuberculous vein or to bacteriæ in the blood.

21. *Taylor on a Self-Retaining Catheter.*—According to Dr. Taylor, one of the best self-retaining catheters which can be devised for the female bladder, is a piece of ordinary drainage-tubing. Some of its advantages over Sims's sigmoid catheter are, first, its cheapness. The catheter made of pewter is heavy, and those of silver expensive. The bladder contracting down on the hard catheter is more likely to be irritated. The end of the soft tubing will, by virtue of its flexibility, drop into the most dependent portion of the bladder and thus reach the urine where it is most likely to accumulate. Bending in this way, it becomes a self-retaining instrument, in the same way that a metal catheter does. The tubing should be cut in pieces fourteen inches long. The end which goes into the bladder should be punched, with a shoemaker's punch, with ten or twelve small holes. Two inches or more should be introduced into the bladder. This will cause the tubing within the bladder to balance that on the outside, and it will ensure the organs being thoroughly drained. Change tubing every third or fourth day. The tubing is easily introduced into the bladder without the aid of a probe or grooved director. It should be oiled and introduced as an ordinary gum catheter.

22. *Wölfler on the Surgical Treatment of Goitre.*—Dr. Wölfler, in speaking of the treatment of goitre with subcutaneous injections of iodine, says that

favourable results have been obtained both in cases of simple hyperplasia, and of colloid degeneration. He illustrates his statement by a few cases from Billroth's clinic, and an experiment on a dog made by himself. The lobes of the thyroid gland of this dog had respectively attained the size of a goose's egg, and the author made ten injections of iodine into one of the lobes. The dog was killed at the end of a month, when the portion of the goitre into which the injections had been made was found to have dwindled down to the size of a man's thumb; it consisted of connective tissue which no longer contained any colloid liquid. The peripheric part of the injected goitre presented the same appearance as the lobe which had remained untouched; it consisted of large meshes of connective tissue, which contained colloid fluid. There were no traces of inflammation or hæmorrhage following the injection of iodine. Several strumous cysts were treated in a different manner: one cyst with thin walls was absorbed after injections of iodine; two other cysts resisted this treatment. In two cases Billroth drained strumous cysts with antiseptic precautions. In one of these cases, the cure was speedily effected; in the other, the cyst was not wholly absorbed, as there were calcareous deposits in its walls. The sac was then opened and the contents removed, after which the patient, a woman aged 72, recovered. The author thinks that tapping the cyst and putting in a drainage tube ought to be done in cases where a cyst does not collapse immediately after being tapped, or in old people where the injection of iodine might be succeeded by a too strong reaction, but where extirpation of the goitre might prove fatal. In the course of the last year, Billroth has extirpated goitres in seven cases under antiseptic precautions, the results having each time been very favourable. In one of these cases the patient was suffering from malignant cystous papilloma; in another case the struma was of carcinomatous nature. All the wounds healed by first intention.

ORTHOPÆDIC SURGERY.

RECENT PAPERS.

1. ANNANDALE. — Spasmodic Wryneck Successfully Treated by Division of the Spinal Accessory Nerve after Failure of Stretching. (*Lancet*, April 19, 1879.)

2. BAKER, H. T.—On the Treatment of Congenital Talipes Equino Varus after the Period of Infancy. (*Lancet*, May 3, 1879.)

3. BARKER, A. E.—A Clinical Lecture on the Operation for Genu Valgum Contracted. (*Brit. Med. Journal*, July 5, 1879.)

4. DALLY.—Treatment of Stiff Joints. (*Journal de Thérapeutique*, February 10, 1879.)

5. DE SANTI, L.—Genu Valgum and the Modern Methods of Treating It. (*Archives Générales de Médecine*, June 1879.)

6. FISHER, F. R.—The Treatment of Pott's Disease, or Angular Deformity of the Spine. (J. and A. Churchill, London, 1879.)

7. HARDIE, J.—Lecture on the Pathology and Treatment of Talipes. (*Brit. Med. Journal*, April 26, 1879.)

8. HUTCHISON, J. C.—On the Mechanical Treatment of Inflammation of the Hip, Knee, and Ankle Joints by a Simple and Efficient Method—the Physiological Method; with Cases. (*Proceedings of the Medical Society of the County of Kings, Brooklyn, N.Y.*, April 1879.)

9. MACWEN, W.M.—Antiseptic Osteotomy for Genu Valgum, Genu Varum, and other Osseous Deformities. (*Lancet*, April 26, 1879.)

10. MACEWEN, WM.—Clinical Lecture on Antiseptic Osteotomy. (*Brit. Med. Journal*, May 3, 1879.)

11. POORE, CHAS. T.—Osteotomy for the Correction of Rachitic Deformities of the Legs. (*Medical Record*, New York, April 26, 1879.)

12. VALTAT, E.—Contributions to the History of the Deformities met with in Diseases of the Joints. (*Revue Mensuelle de Médecine et de Chirurgie*, April 1879.)

6. *Fisher on Pott's Disease*.—Mr. Fisher believes defective nutrition to be the main cause of Pott's disease. When it occurs in healthy children it has always a traumatic origin. As regards treatment, it is useless to attempt to relieve the deformity at the seat of the disease. The recumbent treatment is of great value in some conditions of Pott's disease. To be effectual, however, it must be so conducted as to obtain perfect rest and immobility of the spine. To secure this in children, Mr. Fisher makes use of the bed frame described by him in the *Lancet*, February 23, 1878. When the disease is situated below the third dorsal vertebra, and is of an acute character, the recumbent treatment is absolutely necessary at first, and it is impossible to lay down any definite rule as to how long this treatment should be continued. In the less severe forms it is better to begin the treatment with a few weeks of perfect rest. When the activity of the destructive process has been reduced by rest, the patient may get about with a jacket on. Mr. Fisher gives the following directions as to the application of the jacket during suspension. 1. In no case draw the patient clear of the floor, but allow the toes to touch, so that the patient can steady himself. This, the extreme degree of suspension ever required, should be used for patients under twelve when destruction is quite limited, and in younger children under five in whom disease is more extensive. 2. A more moderate degree, having the forepads of the feet on the floor, with the heels raised about two inches, to be used in cases of more advanced disease occurring in children under twelve, and in severe cases under five. 3. Suspension until the heels are just on the point of being lifted to be used in adults, and all over twelve, and in children with severe disease between twelve and five. The patient must be raised slowly, and by the head alone, except in the case of adults or children with extensive disease in upper region of spine, when axillary bands must also be used. Conducted carefully, and with observance of these precautions, suspension is unattended with the slightest danger. Mr. Fisher prefers the poroplastic felt jacket to the plaster-of-Paris. He considers it a more efficient support, even, than the steel instrument. The process of applying the jacket is completed in two minutes. When the disease is situated high up in the dorsal region of the spine, it is necessary to use in addition Sayre's jury mast. On commencing the use of the jacket, and relaxing the restraint of recumbency, the greatest care and watchfulness are necessary. Exercise should be taken very gradually. When disease is above the third dorsal vertebra, recumbency must be entirely trusted to, and when disease has been arrested and the reparative process is well advanced this may be relaxed, and the patient, being provided with a mechanical support, may commence to take a little exercise.

7. *Hardie on Talipes*.—Dr. Hardie believes congenital varus and equino varus to be due to a form of arrest of development of the fœtus (a failure of growth of the parts on the preaxial border of the limbs), having its origin either in some hereditary peculiarity of the impregnated germ, or else in some

defect in the trophic nervous system of the mother arising during gestation. Acquired talipes originates in some affection of the nervous centres, producing either paralysis or rigidity of certain muscles in the leg and foot. It has yet to be proved that the fœtus is subject to the supervention of the same disturbances of its nervous centres as occur after it has become a separate individual. Until the fœtus has arrived at a state of development sufficiently advanced to be able to carry on its own organic functions, it is essentially a part of the parent, and its growth and development are under the control of her nervous system and not of its own. The forms of congenital club-foot other than varus or equinovarus, are very rare. In acquired talipes, the deformity is never so severe as in congenital. Equinovarus is the most common form. Instead of the primary varus form of the congenital affection, with the probable concomitance of equinus, the latter is the primary form of acquired talipes, and the former a frequent concomitant. The commonest cause is infantile paralysis, which most frequently involves the muscles on the front and outside of the leg. If not quickly recovered from the affected muscles become more or less atrophied, and the sural and other muscles on the back of the leg, either by their remaining active, or through falling down of the foot, gradually become shortened and draw the foot towards their points of origin. Active contraction or spastic rigidity of muscles, which is the recognised cause of congenital talipes, is a rare affection after birth, but is sometimes met with. In the treatment of children under five or six, Dr. Hardie employs simple tin or light iron splints, made after a certain pattern. In paralytic talipes, unless the case be of old standing, the foot can generally be got into position without tenotomy. In any case, the only structure likely to require division is the tendo-achilles. Galvanism is only useful in preventing the occurrence of the deformity. When the case has become one of talipes, the time for using galvanism has long since passed away.

8. *Hutchison on the Treatment of Inflammation of the Hip, Knee, and Ankle-joints*.—An account of Dr. Hutchison's method of treatment of morbus coxarius has already appeared in the *MEDICAL RECORD* for May 1879. In the present paper he describes, in addition, his method of treating inflammation of the knee and ankle-joints. With regard to the knee-joint, the indications for treatment are the same as for inflammation of the hip-joint, with the addition of compression. As the knee is not, like the hip, surrounded by powerful muscles, which by their rigidity, immobilise the joint, it is necessary to use some mechanical restraint in order to effect complete rest. Dr. Hutchison uses a splint of hatter's felt, wide enough to nearly surround the limb, and extending half way up the thigh, and to a corresponding point below the knee. Fixation and compression are secured by means of this splint. Extension is best accomplished by the use of the elevated shoe and crutches, as in disease of the hip-joint. The indications for the treatment of inflammation of the ankle-joint may be met in the same way. Instead of felt, however, Dr. Hutchison prefers fixing the ankle with two splints of plaster-of-Paris, one applied in front, the other behind, extending from the middle of the leg to the ends of the metatarsal bones, and wide enough to leave an interval of half an inch between the edges on the inner and outer side. The elevated shoe and crutches is the best and simplest method of making

extension and removing pressure. The weight required is not great, and the weight of the foot is sufficient to overcome muscular contraction.

9. *Maccewen on Antiseptic Osteotomy.*—In a former lecture, Dr. Maccewen stated that the most suitable age for operating in knock-knee and bow-leg was from eight to twenty. Since then he has operated on four patients over twenty. The results were highly satisfactory, and tend to show that patients up to thirty-two years of age may be operated on with safety. Osteotomy in patients of this age, however, is quite a different thing from the same operation in the adolescent. In the former, the bones are harder, and tend to split at right angles to the instrument, unless the manipulation is proceeded with carefully. Respecting the kind of instrument which ought to be employed: if a wedge of bone is to be removed, a chisel, having the same form as the carpenter's, viz., one straight and one bevelled edge, would be suitable; the straight edge ought to be kept towards the surface which is to remain in the limb, the bevelled edge towards the part to be removed. For the simple osseous division, one bevelled on both sides is most suitable. If the bone be large and very dense, several chisels ought to be used; the first thick, the second finer; a third may be used if necessary. It is necessary to remember that, for a short distance above the condyles, the femur has a much thicker outer than inner border. If the form of the bone be not borne in mind, the surgeon may think that he has divided it sufficiently, and yet he will find that it will not yield, owing, in most cases, to the posterior outer part remaining intact. In cutting the posterior inner part of the bone, the chisel ought to be directed from behind forwards, so as to cut away from the artery. The chisel is introduced longitudinally, until it comes in contact with the bone, when it is turned transversely.

12. *Valtat on the Deformities in Diseases of the Joints.*—Dr. Valtat gives the particulars of a case of old arthritis of the knee, occurring in the practice of Professor Verneuil, in which the usual deformity of flexion of the leg on the thigh was well marked, and in which a cure was effected by continuous extension and faradisation. The cause of the deformity is, Professor Verneuil thinks, atrophy of the extensor, and consecutive contraction of the flexor muscles of the leg.

E. CARR JACKSON.

ANATOMY.

RECENT PAPERS.

1. AITKEN, J.—A new variety of Ocular Spectrum. (*Jour. of Anat. and Physiol.*, April 1879.)
2. AYRES, W. C.—On the Development of the Cornea and Anterior Chamber of the Eye.—(*Arch. of Ophthalmology*, May 1879.)
3. BAUMGARTEN, P.—On the Permeability of the Umbilical Vein. (*Centrbl. für Med. Wiss.*, t. xv, p. 40.)
4. BUECKNER, K.—Minor Contributions to the Normal and Pathological Anatomy of the Organ of Hearing.—(*Arch. f. Ohrenheilkunde*, 1878, Bd. xiii, H. 2 and 3.)
5. COSSY, L. A.—Experimental and Clinical Study of the Lateral Ventricles. (*Monograph*, Paris, 1879.)
6. CUNNINGHAM, D. J.—Note on the Distribution of the Anterior Tibial Nerve on the Dorsum of the Foot.—(*Jour. of Anat. and Physiol.*, April 1879.)
7. DOGIEL, A.—Note on the Nerves of the Ureters. (*Arch. f. Mikr. Anat.*, t. xv, p. 64.)

8. DOGIEL.—The Ganglion Cells of the Heart in various Animals and in Man. (*Arch. f. Mikr. Anat.*, 4 Hft, p. 478.)
9. DITLEVSEN.—New Contributions to the Study of the Nerves of Touch; Nerves of the Cornea. (*Nord. Med. Arkiv.*, Bd. x, No. 5.)
10. DURAND, A. P.—An Anatomical Study on the Contractile Cellular Segment and the Connective Tissue of the Cardiac Muscle. (*Monograph*, Paris, 1879.)
11. FOULIS, J.—The Development of the Ova, and the Structure of the Ovary in Man and other Mammalia, with special reference to the Origin and Development of the Follicular Epithelial Cells. (*Jour. of Anat. and Physiol.*, April 1879.)
12. GANGHOFER, F.—On the Tonsilla and Bursa Pharyngea. (*Sitzungsberichte der Akad. der Wissensch.*, Hft v, 3rd Part, 1879.)
13. GSCHLEIDEN.—A Contribution to the Study of the Termination of Nerves in Smooth Muscular Fibre. (*Arch. f. Mikr. Anat.*, 3 Hft, 1877.)
14. GRUBER, J.—Contribution to the History of the Embryological Development of the Stapes and the Fenestra Ovalis. (*Schenck's Embryol. Mitth.*, Wien, 1878, p. 167.)
15. GASSER.—The Development of the Heart in the Embryos of Birds. (*Arch. f. Mikros. Anat.*, Ht. 4.)
16. GADIAT.—The Development of the Cephalo-Thoracic portion of the Embryo. (*Jour. de l'Anat. et de la Physiol.*, Sept. 1878.)
17. HOGGAN, G.—Study of the Lymphatics of the Skin. (*Jour. de l'Anat. et Physiol.*, 1879.)
18. KELLERMANN, M.—An Anatomical Research on an Atrophied Optic Nerve, with some Observations regarding the Crossing of the Nerves in the Optic Commissure. (*Reprint from Klinischen Monatsblätter f. Augenheilkunde*, Stuttgart, 1879.)
19. KLEIN, E.—Observations on the Structure of Cells and Nuclei. (*Quarterly Jour. of Microscop. Science*, April 1879.)
20. KRAUSE, W.—The Tympanic Glandule in Man. (*Centralbl. f. Med. Wissensch.*, No. 41, 1878.)
21. KUHN.—Investigations on the Membranous Labyrinth of the Osseous Fishes. (*Arch. of Mikros. Anat.*, Bd. xiv, H. 3, p. 264.)
22. KÜHN, W.—The Histology of the Termination of Motor Nerves. (*Monograph*, Heidelberg, 1878.)
23. LAUGER, C.—On the Vessels of the Eyelids. (*Medic. Jahrbücher*, Hft 3, 1878.)
24. LEWIS, B.—Application of Freezing Methods to the Microscopic Examination of the Brain. (*Brain*, p. 348, 1879.)
25. LÖWZ, L.—On the Rudiments of Prima-formation in a Human Embryo, one centimètre long. (*Arch. of Otolgy*, 1878, p. 106.)
26. LOWE, L.—On the Origin of the Cartilaginous and Osseous Labyrinth. (*Berd. Münchener Naturf.*, Vers. 1877, p. 343.)
27. MAX FLESCHE.—Contribution to the Knowledge of the so-called Dehiscence of the Tegmen Tympani. (*Arch. f. Ohrenheilkunde*, Bd. xiv, H. 1.)
28. MOOS.—Research on the Blood-vessels and the Circulation of the Blood in the Membrani Tympani and Manübrum Mallei. (*Arch. f. Äugen u. Ohrenheilk.*, t. iv, p. 475.)
29. MORISON, B. G.—The Arrangement of the Azygos and Superior Intercostal Veins in the Thorax. (*Jour. of Anat. and Physiol.*, April 1879.)
30. MOROCHOWITZ, L.—Note on the Action of Nitrate of Silver on Nerve Fibre. (*Heidelberg*, 1878.)
31. MUNK, H.—Absence of the Semicircular Canals in the right Petrous Bone of a Pigeon. (*Arch. f. Anat. u. Physiol.*, H. 3rd and 4th.)
32. NYKAMP.—Contribution to the Study of the Structure of Cartilage. (*Arch. f. Mik. Anat.*, Hft 4.)
33. OSLER, W.—Obliteration of Vena Cava Inferior, with Great Stenosis of Orifices of Hepatic Veins. (*Jour. of Anat. and Physiol.*, April 1879.)
34. RANVIER.—Structure of the Cornea. (*Memoir de la Société de Biologie*, Feb. 1879.)

35. RAVOGLI, A.—Researches on the Structure, the Formation, and Suppuration of the Skin. (*Medicinisch. Jahrbücher*, Heft 1, 1879.)

36. RENDALL, S.—Unusual Abnormality of the Arteries at the Base of the Brain. (*Four. of Anat. and Physiol.*, April 1879.)

37. ROBIN, C.—Remarks on the Generation of the Anatomical Elements, or the Cell Theory. (*Jour. de l'Anat. et de la Physiol.*, July 1878.)

38. SCHUSTER.—Development of the Hip- and Knee-joints. (*Schenck's Mittheilungen*, page 199.)

39. TURNER, W.—A Loop-like Bifurcation of the External Carotid Artery. (*Four. of Anat. and Physiol.*, April 1879.)

40. TURNER, W.—Notes on the Dissection of a Negro. (*Jour. of Anat. and Physiol.*, April 1879.)

41. UNGER, L.—On the Transverse Striæ of Muscle in Living Animals. (*Medicinisch. Jahrbücher*, Heft 1, 1879.)

42. WELCKER, H.—The Entrance of the Biceps Tendon into the Shoulder-Joint. (*Arch. f. Anat. u. Physiol.*, Heft 1, p. 20, 1878.)

43. WYETH.—Absence of the Internal Carotid Artery. (*New York Med. Jour.*, May 1879, p. 536.)

44. ZUCKERKANDL, E.—On a hitherto undescribed Gland in the Supra-hyoid Region. (*Monograph*, Stuttgart, 1879.)

45. ZUCKERKANDL, E.—Contributions to the Anatomy of the Temporal Bone (two communications). (*Monatsschrift f. Ohrenheilkunde*, Nos. 3, 4, & 7.)

1. *Aitken on a new Variety of Ocular Spectrum.*—The author finds that there is a distinct kind of ocular spectrum, which may be called a motion spectrum. It is seen when a body in motion is first looked at, and the eye is afterwards directed towards an object at rest. The object at rest, when seen under these conditions, seems to be in motion, and the direction of its apparent motion is the opposite of that of the moving body first looked at.

2. *Ayres on Development of the Cornea and Anterior Chamber.*—In this paper, the author first gives a résumé of the different views that are held regarding the development of those portions of the eye. He then gives the results of his own investigations. These were made on embryos of the ox, 6 millimètres in length and upwards; in every case he found that there was a layer of cells and some blood-vessels between the anterior border of the ocular vesicle and the ectoderm. In this point he agrees with Lieberkühn, Arnold, Müller, and others. In a later stage of the development, or that in which the lens begins to recede, this zone of tissue between the ectoderm and the primary ocular vesicle is pushed along with it as it hollows out the primary to form the secondary vesicle, and, at every stage of the receding of the lens, this zone is still to be seen as a semi-transparent tissue containing cells. After the lens has become detached from the ectoderm, the latter closes in, and appears between the lens and the epithelium. It is continuous on both sides with the mesoderm, and, in the interior, with the tissue surrounding the lens. In embryos from 15 to 17 millimètres long this tissue is thicker and much richer in cells. When these latter are stained with carmine or hæmatoxyline they can be seen very distinctly. They are round, sometimes spindle-shaped, or even stellate-form, occasionally, with an exceedingly well-developed cell-body and round nuclei. At this period, the number of cells immediately under the epithelium become few in number, or may even be entirely absent; and the tissue has a more homogeneous appearance. This clear tissue seems

to be identical with that which lies behind the lens and with the mesoderm. In embryos of 18 to 21 millimètres the cells or nuclei have disappeared in the middle layer of the cornea. The cells there are closer together, and the intracellular substance is less than before. At this period the lamellar arrangement begins. While in the previous period only a slight homogeneous zone had made its appearance under the epithelium, at this later period the zone is very plainly seen, and has reached a considerable thickness. As development goes on, the cornea increases in thickness, the corneal tissue contains numerous cells embedded in a tolerably thick and finely granular protoplasm. The space between the substance of the cornea and the capsule of the lens is filled by transparent vascular tissue. A narrow bright stripe can at a later stage be seen in the layer behind the proper lens substance, in which there are neither nuclei nor cells. The tissue next the membrane of Descemet becomes less dense, and, in some places, perforated with small holes; while the cells are arranged upon the walls of these interspaces. The tissue in front of the lens forms a membrane, the vessels of which are continuous with those running laterally and behind the lens. A network of tissue, whose meshes are lined with flat cells, forms between the cornea and vascular membrane. The anterior chamber is, therefore, formed by a separation of the cornea from the tissue which lies immediately below it, and with which it before stood in perfect continuation.

4. *Buerkner on the Anatomy of the Organ of Hearing.*—In this paper, Buerkner communicates the results of his researches on the fissure in the ossification of the external auditory meatus, on the dehiscences of the tegmen tympani, and on an isolated cartilage in the infantile auditory meatus. The completion of the fissure seems to fall in the second year; its shape is variable, but generally oval or crescentic, with the long axis directly transversely. Several fissures may be formed by furcation of the tympanic tubercles, or by their not meeting. In contra-distinction to the rounded and solid appearance of the fissures of ossification, the author points out the crumbling and corroded aspect of carious defect. Regarding the dehiscence of the tegmen tympani, the author concludes that absorption of the respective plates of bone takes place through pressure exerted by the brain. The cartilage he found in the auditory meatus in some children he describes as shaped like a hook, from 10 to 15 millimètres long. It was situated at the inferior wall in the membranous tissue, forming the continuation of the cartilaginous auditory meatus.

6. *Cunningham on the Distribution of the Anterior Tibial Nerve on the Dorsum of the Foot.*—The author made during last winter a series of dissections for the purpose of ascertaining whether the anterior tibial nerve supplies twigs to the dorsal interossei muscles, a point upon which there is some diversity of opinion. Ruge has described four interosseous twigs proceeding from the anterior tibial nerve, one from the inner division of the nerve for the first or innermost intermetatarsal space, and three from the outer division of the nerve for the three outer spaces. Before reaching the spaces, these interosseous nerves give twigs to the tarsal joints, and there run forwards on the dorsal interossei to reach the metatarso-phalangeal joints in which they end. He states distinctly that each interosseous nerve sup-

plies twigs to the muscles upon which it lies. In two of his dissections, Dr. Cunningham found that from the innermost interosseous branch of the anterior tibial nerve, there were twigs growing into the substance of the first dorsal interosseous muscle. In two other dissections, he found the fourth, or outermost interosseous nerve absent. This is said by Ruge and Rüdinger to be frequently the case. In another dissection in which it was present, he was unable to trace it further forwards than the base of the fifth metatarsal bone. The three innermost interosseous nerves were found in all the dissections, but, in one instance, the third nerve did not proceed further forward than the base of the metatarsus. In two cases, the third nerve ran forwards in the intermetatarsal space to the metatarso-phalangeal joints, but gave no twigs to the subjacent interosseous muscle. In each instance he was able to detect twigs proceeding from the second nerve to the second dorsal interosseous muscle, and, in two of the dissections, muscular filaments were given by the first nerve to the first dorsal interosseous muscle. Two branches are usually given off by the inner division of the anterior tibial nerve to the innermost inter-metatarsal space. Of these, one at once passes downwards in company with the *arteria dorsalis pedis* to the plantar aspect of the first tarso-metatarsal joint, in which it apparently ends. The other branch divides into two, and these are carried forwards in the metatarsal space to the first metatarso-phalangeal joint. It is from this latter branch that the muscular twigs proceed. The second and third interosseous nerves, when they reach their respective metatarsal space, give plantar branches, which pass downwards alongside of the corresponding perforating arteries, and which are evidently destined for the supply of the plantar aspect of the tarso-metatarsal joints. The nerve-supply of the second, and sometimes of the first dorsal interosseous muscles is, therefore, derived from two sources—the anterior tibial and external plantar nerves.

7. *Dogiel on the Nerves of the Ureters.*—Engelmann has affirmed that the peristaltic and antiperistaltic movements of the ureters are produced independently of the nervous system. The author of the present paper believes that the reverse is the case, namely, that these movements are dependent upon the nervous system. His researches have been principally carried out upon the dog and the rat; in these animals he traces nerve-ganglions situated on the superior and inferior portions of the ureters. These ganglions are situated in loose connective tissue containing fat, and are difficult to find.

8. *Dogiel on the Ganglion Cells in the Heart of various Animals and in Man.*—From the works of various authors we have become acquainted with the arrangement of the nerves and the ganglia of the heart of the frog, but we are not so well acquainted with their arrangement in the hearts of birds and mammals. Dogiel has completed the investigations in a number of the vertebrata and in man, and the following are the conclusions he has come to: 1. Ganglion cells are normally found in the hearts of frogs, turtles, fish, birds, of mammals, and men; 2. In the heart of many animals and in the heart of man, the ganglia are placed at the orifices of the great veins and at the junction of the auricles and ventricles. In the mollusca and the insects, nerve-cells are situated in the interstices of the muscular fibres of the heart. In the frog, in fish, birds and mammals, and even in man, the cardiac

ganglia are entangled in the network of the ramifications of the cardiac nerves, without being directly adherent to the latter, and without penetrating deeply into the cardiac muscle. Their situation is always superficial.

10. *Durand on the Contractile Cellular Segments and Connective Tissue of the Cardiac Muscle.*—This monograph consists of three chapters. The first contains a *résumé* of what is known regarding the muscular system of the heart in general. The second chapter is confined to a study of the connective tissue of the cardiac muscle. It was this that presented the greatest difficulties and required most labour, on account of being entirely new ground. The third treats more of the pathological bearing of the anatomical facts discussed in the previous chapters, such as the effects of inflammations, the part of the heart most liable to fatty degeneration, and upon the division of the heart into cellular segments.

11. *Foulis on the Development of the Ova in Man and other Mammalia.*—This very important paper is a continuation of some observations on the same subject published in the *Transactions of the Royal Society of Edinburgh*, vol. xxvii, 1875, by the author. In the present communication, Dr. Foulis criticises the views of Waldeyer, Pflüger, F. M. Balfour and others, and gives the following as the conclusions he has arrived at from the results of his observations. All ova are derived from the germ-epithelial cells. In the development of the ovary, small and large groups of the germ-epithelial cells become gradually embedded in the ever-advancing stroma, but are found not to grow downwards into the substance of the ovary, on the contrary the ovarian stroma constantly grows outwards, surrounding and embedding certain of the germ-epithelial cells. As these latter increase in size, and as the stroma thickens around them, the whole ovary becomes enlarged. Pflüger's tubes in the kitten's ovary have no existence as such, but are appearances produced by long groups of imbedded germ-epithelial cells, many of which are not completely cut off from the germ-epithelial layer by the young ovarian stroma. Such groups of germ-epithelial cells in various forms are met with in all ovaries, but have no importance whatever as tubular structures. In the human child's ovary, numerous furrows or clefts between irregularities of the general surface are to be found. Sections through these furrows and clefts present the appearance as if the germ-epithelium had passed downwards into the ovary in the form of tubular open pits, as was described by Waldeyer and his predecessors. No real tubular structures, from which Graafian follicles are formed, exist however, in the mammalian ovary at any stage of its development. Graafian follicles are formed only in one way, from the beginning of the ovary to the end of its existence. The youngest connective tissue of the stroma, in the form of offshoots of jelly-like protoplasm, surrounds and embeds large and small germ-epithelial cells. A single germ-epithelial cell may be completely surrounded by this young connective tissue. When this takes place, the germ-epithelial cell rapidly grows and becomes a primordial ovum. Each individual cell in a group of germ-epithelial cells surrounded by the young ovarian stroma shows a similar tendency to become a primordial ovum. All the groups of developing germ-epithelial cells, or nest-cells in the ovary, are broken up into still smaller cell nests by the ever-advancing young connective tissue, until at last the individual cells in the cell nests become completely surrounded by the youngest con-

nective tissue. When an individual germ-cell becomes surrounded by the young connective tissue at the same time, and as part of the process, the Graafian follicle begins to be formed. Wherever the young jelly-like connective tissue appears in its substance, nuclei, generally fusiform at first, make their appearance. These nuclei may be always seen in contact with the protoplasm or yolk substance of the developing ova. This takes place in all parts of the ovary where cell nests are formed. The Graafian follicles thus originate, not from the germ-epithelial cells, but from the cells of the ovarian stroma. In the mammalian ovary at birth, the most advanced ova are met with deep in the ovary, and not in passing from without inwards, as described by some observers. In a ripe Graafian follicle, the stroma cells outside the membrana propria folliculi become converted into cells exactly similar to the true follicular cells, and it is possible to trace them outside the follicle going through all the stages of development till they become cells resembling the follicle cells. This observation affords a most conclusive proof of the origin of the follicle cells from the ordinary cells of the stroma.

19. *Klein on the Structure of Cells and Nuclei.*—In this very able paper Dr. Klein gives an account of his observations on the structure of the epithelial and gland-cells of mammals. The objects that he goes into carefully, comparing his own views with those of other histologists, are the epithelial-cells of the intestinal mucous membrane and of the lining of the tubes of the epididymis, the gland-cells of the submaxillary gland in man and the dog, of the mucous membrane and of the liver; also the epithelial-cells of the glands of the stomach and of Brunner's glands; the cells of laminated pavement epithelium, including those of the rete Malpighii of the epidermis; the cells lining the seminal tubes, and the interstitial epithelium of the testes and ovary, and, finally, the epithelial-cells of sebaceous glands and of the sweat-gland tubes.

20. *Krause on the Tympanic Glandule in Man.*—At a short distance from the petrous gland there is a little swelling of 4 millimètres long by 1 millimètre broad on the tympanic nerve. When the veins are full of blood, this little body resembles a ganglion, on account of its red colour; but when the vessels are seen empty it is pale, and appears to be simply a thickening of the periosteum; it is, however, neither the one nor the other. It is composed fundamentally of a substance of a connective nature, containing elastic fibres and a number of vessels (arteries, veins, and a network of capillaries). The arteries are formed by the tympanic branches of the ascending pharyngeal which accompany the tympanic nerve. That which distinguishes the tissue in question is the presence of pyramidal, and triangular or stellate cells, in more or less great numbers, arranged sometimes so as to form a kind of canal, which resembles the structure of the inter-parotid gland. Like it and the pineal gland, this gangliform swelling of the superior tympanic nerve is a vestige of an embryonic structure, being developed from the first branchial arch. The author proposes to name it the brancho-tympanic gland.

22. *Hülne on the Termination of the Motor Nerves.*—The author gives an historical account of the researches that have been made previously on this subject, and then gives the results of his own observations. He finds that each muscular fibre of the intestine of the leech (the animal he seems to have experimented most upon) receives a nerve-fibre (an

end or terminal fibrilla). This is the same in the frog; but nothing analogous to the termination of nerve-fibres in ultimate sarcoous elements seems to exist in either animal.

27. *Flesch on the so-called Dehiscence of the Tegmen Tympani.*—The author has come to the following conclusions, from his own observations, and those of Kürkner and Janicke: 1. The dehiscences are the consequences of a process of absorption, and are congenital certainly only in exceptional cases; 2. In the large majority of cases increase of pressure within the cranial cavity is the cause of the absorption; 3. Extensive development of the pneumatic cavities favours the consummation of the perforation.

28. *Moos on the Circulatory Vessels of the Tympanic Membrane and Malleus.*—The results which the author has obtained from his investigations confirm the views of Kessel, Prussah, Rüdinger, and others. He describes the vessels of the membrane of Shrapnell, and shows that the veins which perforate the posterior half of that membrane constitute the principal channels for the venous return. He describes the external vascular network of the membrana tympani. Then he passes to the veins of the cutaneous layer and to the vessels of the principal layer. In the latter he found numerous anastomoses between the veins of the nervous and dermal layers, but could find no such communications between the corresponding arterial vessels; neither was he able to find in the intermediate zones the capillary network described by Kessel between the layers of the circular and radiating fibres, although in the portion of the proper membrane corresponding to the handle of the malleus he has found small spaces produced by the crossing of the transverse and longitudinal vessels. The author attributes very little importance to the branches of the dermal arteries for the nutrition of the handle of the malleus and the neighbouring parts of the membrane proper. The principal source of the vessels for the nutrition of those parts is, on the contrary, constituted by an artery situated on the internal surface of the membrane formed, 1, by a tympanic branch of the temporal artery coming through the Glaserian fissure; and, 2, by a branch from the stylo-mastoid artery. He concludes by describing the internal vascular network of the tympanic membrane.

29. *Morison on the arrangement of the Azygos and Superior Intercostal Veins.*—The results of Mr. Morison's observations are, that the venæ azygos minores usually join the major separately, and not by a common trunk. They are occasionally connected before their termination by a small cross branch. The left superior intercostal and vena azygos minor superior usually join just before the former turns up over the aorta. There is a left superior intercostal vein apart from that which passes over the aortic arch. It lies in the first intercostal space, is the proper companion of the superior intercostal artery, and corresponds exactly to the right intercostal vein. It joins the left innominate vein or a branch of it—as a rule, the vertebral vein.

32. *Nykamp on the Structure of Cartilage.*—The author finds that there exists in hyaline cartilage, as well as in all the other varieties of cartilage, a system of canaliculi for the nutrition of the cartilaginous cells. He has arrived at this conclusion from an examination of a number of specimens, and from results he obtained by injecting the cartilages of various regions.

33. *Oster on a case of Obliteration of the Inferior Vena Cava.*—The subject of this abnormality was a young man who died at the age of 24 years. He suffered from hæmorrhoides and œdema, and varicose veins of the legs for some years previous to his death, but to so slight an extent as to cause him little or no inconvenience. Suddenly he was attacked with diarrhœa and intense pain in the lower bowel, and ascites. The veins of the rectum were very much congested and enlarged. About one month after the beginning of the attack he died. On *post mortem* examination, it was found that between the auricle and the diaphragm the vena cava was normal. Immediately below this point the cava terminated in a *cul-de-sac*, the floor of which was formed of cicatricial tissue, and, on either side, the hepatic vein opened into it, the orifices of which were small. From this point to the entrance of the left renal vein, a dense fibrous cord, 62 millimètres in length, 10 millimètres at the middle, and widening to 18 millimètres at the end, was all that represented the cava. The central part of the cord lay between the spigelian and right lobes, and was adherent to the liver substance. The obliteration terminated at the left renal vein, where the cava broadened out and divided normally. The walls of this latter portion were greatly hypertrophied. The lumbar and azygos veins were much dilated, the azygos major equalling the cava in size (measuring about the centre of its course 62 millimètres in circumference), and opening into the superior vena cava by an orifice large enough to admit the index finger. The liver was in a cirrhotic condition, and, in many of the lobules, the venæ centralis were distended. One of the most striking features of a cut section was the number and prominence of the hepatic veins of all sizes. The author believes, from the absence of any source of compression, and of any pathological state of its branches, that the initial cause of the obstruction has been a local one, confined to the part of the vessel affected. From the state of the vein at the site of obliteration, the obstruction has been of some duration, but how long it is impossible to say. In this instance, the vena azygos major has been the main channel for conveying the venous blood from the lower portion of the body to the heart, and, in addition, provided accommodation for a considerable portion of the blood of the portal system. From the absence of symptoms of obstruction in the portal system up to a short time before the fatal illness, the collateral circulation had been established sufficiently to compensate for the greatly narrowed streams from the hepatic veins. So far as was ascertained, this took place through the diaphragmatic and œsophageal plexuses, both of which were distended.

34. *Ranvier on the Structure of the Cornea.*—M. Ranvier, who has been devoting much time and care to the study of the structure of the cornea, communicated the results of his observations to the Société de Biologie on February 8th. He finds that the corpuscles of the cornea cannot be seen in the normal eye of a living animal; they only appear when the eye in question has been kept for some time in aqueous humour. If the cells of the cornea become visible under the influence of steam, this is due to imbibition by the membrane. The fibres of the cornea are very hygrometric. A bullock's eye, if plunged into distilled water, will increase in diameter several times.

36. *Rendall on Abnormalities of the Arteries of the Brain.*—The vertebral arteries of either side joined, as

usual, to constitute the basilar, which, immediately after its formation, divided into two trunks, and, again uniting, formed a loop; this loop was situated near the lower border of the pons Varolii. The main artery then ran forwards, giving off the inferior cerebellar and transverse arteries of the pons, and the two superior cerebellar arteries, and finally terminated by dividing into two small branches in the position of the posterior communicating arteries. The left carotid gave off first the posterior cerebral artery; this was joined by the small communicating branch from the basilar. The next branch was the middle cerebral, which was quite normal. The terminal portion of the left internal carotid ran forward to the anterior extremity of the locus perforatus anticus, where it divided into two branches. One of these occupied the position of the anterior cerebral, the other turned sharply to the right, and then, after a short transverse course of about 5 millimètres, made another sharp turn forwards, so as almost to form two right angles, where it constituted the anterior cerebral artery of the right side. The right internal carotid was comparatively normal.

38. *Schuster on Development of the Hip- and Knee-Joints.*—Dr. Schuster's views may be summarised as follows: The intermediate zones of these joints contain the necessary material—1, for the formation of accessory parts of the primary extremities of the joints; 2, for the formation of the cartilaginous portions of the joints; and, 3, for the interarticular ligaments. The cartilaginous rim of the acetabulum and the semi-lunar cartilages of the knee-joint, are secondary formations, originating from the capsules.

39. *Turner on a Loop-like Bifurcation of the External Carotid Artery.*—The subject was a male. The left external carotid had its customary origin, and ascended into the parotid gland. It gave off the superior thyroid lingual and facial branches normally, and then bifurcated just below the angle of the jaw into two almost equal-sized arteries, which united a little below the temporo-maxillary joint so as to form an elongated loop. From the place of reunion the internal maxillary, the temporal, and the transverse facial arteries arose together with a small branch to the parotid gland. The posterior auricular artery arose from the posterior rim of the loop, but the anterior limb gave off no branch. The occipital arose from the external carotid artery prior to bifurcation. The ascending pharyngeal arose close to the commencement of the external carotid.

40. *Turner on the Dissection of a Negro.*—The subject was one dissected in the anatomical room of the University of Edinburgh last winter. The facial configuration, the colour of skin, and crisp short curly hair, showed the body to be that of a pure Negro without admixture of white blood. In the muscular system, the following deviations from what is normal in white persons was found. The platysma myoides was very distinctly developed and of larger size than normal, the posterior belly of the omo-hyoid arose from the outer half of the under surface of the clavicle, and not at all from the upper angle of the scapula. The sterno-thyroid was inserted by a pointed slip into only the upper end of the oblique line on the outer surface of the ala of the thyroid cartilage. The semispinales colli received processes of origin from the seventh cervical and first and second dorsal vertebræ. A musculus transversus nuchæ was present. The superior constrictor had, in addition to the origins usually described, some

fibres proceeding from the tensor palati internal to the hamular process. The pectoralis major had an additional tendon of insertion into the capsular ligament of the shoulder-joint. The origin of the brachialis anticus was divided into deep and superficial portions. Several muscles of both upper and lower extremities were abnormal in their origin or insertion. Some of the above abnormalities have been recorded by anatomists as found occasionally in the dissecting room. Deviations also occurred in the course and branches of the deep palmar arch, the brachial artery, and in the nervous system, in the ulnar, small occipital, and other nerves.

42. *Welcker on the Entrance of the Tendon of the Biceps into the Shoulder-joint.*—In this work the author gives the result of a series of observations made by himself on the tendon of the biceps in its relation to the shoulder-joint in a number of animals. From his investigations he has ascertained that the bicipital tendon is surrounded by endothelium which is not the same as that of the articular synovial, but corresponds to that lining the serous pouch found in animals possessing a tendon situated external to the joint.

43. *Wyeth on Absence of the Internal Carotid Artery.*—Dr. Wyeth has described the arterial arrangement at the base of the brain of a man, aged 35, who had but one internal carotid artery. The right common carotid was present and normal. The left common carotid, which measured only about half the ordinary size, arose from the arch of the aorta as usual, but terminated in the distribution of the left external carotid. There was no carotid canal on this side. The right internal carotid divided into the anterior and middle cerebral, and gave off a large posterior communicating branch, which joined with the basilar. From this right (and only) posterior communicating branch, the right posterior cerebral was divided. The right anterior cerebral, quite large, divided into three branches, one of which crossed underneath the corpus callosum to the right anterior lobe of the brain. The basilar gave origin to a large trunk, which passed obliquely forwards and to the left, giving off in succession from behind forwards the left posterior choroid, posterior cerebral, anterior choroid, and left middle cerebral, which pursued its usual course along the fissure of Sylvius. From this last vessel, a very small branch, about 2 centimetres long, crossed obliquely to the right to join the right anterior cerebral. This was the substitute for the anterior communicating. Absence of the internal carotid is an exceedingly rare occurrence.

J. G. GARSON, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. ALESSANDRINI.—Porro's Operation in Rupture of the Uterus. (*Annali Universali di Medicina e Chirurgia*, June 1879.)

2. BOZEMAN, NATHAN.—Remarks on Ovariectomy. (*New York Medical Record*, July and August 1879.)

3. BREISKY.—Hæmatometra and Hæmatokolpos Læteralis. (*Prager Medicinische Wochenschrift*, July 16, 1879.)

4. CAMPBELL, HENRY F.—Rectal Alimentation in the Nausea of Pregnancy. (*Transactions of the American Gynecological Society*, 1878.)

5. COLMS, W.—Vicarious Menstruation. (*St. Louis Medical and Surgical Journal*, July 1879.)

6. CRÉDÉ, B.—A New Method of Extirpating the Uterus. (*Archiv für Gynäkologie*, Band xiv, Heft 3.)

7. FRITSCH, HEINRICH.—Expulsion of a Fibroma by Ergot. (*Centralblatt für Gynäkologie*, Aug. 30, 1879.)

8. FRITSCH, H.—On the Proper Moment to Tie the Cord. (*Centralblatt für Gynäkologie*, Aug. 2, 1879.)

9. GOODELL, WILLIAM.—On the Relation of Neurasthenia to Diseases of the Womb. (*Transactions of the American Gynecological Society*, 1878.)

10. LONGHENA, A.—Granular Vaginitis. (*Annali di Ostetricia, Ginecologia, e Pediatria*, July 1879.)

11. MCBRIDE, T. A.—A case of Hysterical Anuria cured by Restoring a Lacerated Cervix Uteri. (*American Archives of Medicine*, June 1879.)

12. MORISANI, O.—The Excision of Intra-uterine Sessile Fibromas. (*Annali di Ostetricia, Ginecologia, e Pediatria*, Aug. 1879.)

13. REAMY, T. A.—Hourglass Contraction of the Uterus Prior to Expulsion of the Child. (*Cincinnati Lancet and Clinic*, May 10, 1879.)

14. ROUVIER, JULES.—On the Icterus of Menstruation. (*Annales de Gynécologie*, July 1879.)

15. SHEPHERD, C.—Ten cases of Ovariectomy. (*Detroit Lancet*, May 1879.)

16. SMITH, HEYWOOD.—Successful case of Battey's Operation. (*British Medical Journal*, July 12, 1879.)

17. TARNIER.—Two cases of Porro's Operation. (*Annales de Gynécologie*, Aug. 1879.)

18. VEIT.—Drainage of the Uterus in Puerperal Disease. (*Berliner Klinische Wochenschrift*, den 9 Juni, 1879.)

1. *Porro's Operation in Ruptured Uterus.*—Dr. Alessandrini proposes, in cases of rupture of the uterus where the child has escaped into the abdomen, to resort to Porro's operation. He thinks the operation is especially indicated when the child is living, and when it would be difficult to extract it through the rent in the uterus.

4. *Rectal Alimentation in the Nausea of Pregnancy.*—Dr. Campbell is of opinion that the rationale of rectal alimentation depends upon a process which he terms *Intestinal inhaustion*. This consists in a reversed action of the intestine, a retrostalsis by which the injecta are sent up through the colon into the small intestine, where they become digested. The following is a case in point. Mrs. S. W., aged 40, was the subject of a large ovarian tumour. Ovariectomy was performed by the late Dr. Atlee. Excessive vomiting succeeded. Rectal alimentation was diligently attempted. None of the beef tea escaped per anum, but it was constantly, for several days, vomited from the mouth. The vomiting of the nourishment was preceded by stercoraceous vomiting, but afterwards the beef tea came up almost as clear, and entirely unmistakable, as satisfactorily proved by chemical tests. Dr. Atlee said he had observed a similar occurrence from inverted peristaltic action in one or more of his former ovariectomies. Dr. Campbell thinks that water and tenuous, nutritious, and medicinal solutions are probably absorbed directly into the blood, or by the portal radicles and mucous membrane of the rectum and colon for digestion in the liver. The digestion, however, of composite aliments is never effected in the rectum or colon on account of the absence of the "digestive fluids" universally recognised as indispensable to their disintegration and solution. He believes that, under the careful and systematic application of rectal alimentation, artificial abortion for the relief of gravid nausea can be banished from practice, even as a last resort.

9. *Neurasthenia in Uterine Disease.*—Dr. Goodell advises the administration of iron in large doses, massage, electricity, milk diet, and removal from home environment, as the treatment of those cases of general nerve-tire or neurasthenia which are so often associated with leucorrhœa and a flexion, as well as dysmenorrhœa. In these cases of hysteropsychosis, local treatment may be pretermitted. The object to be aimed at is the proper nutrition and repair of the nervous system.

12. *Excision of Sessile Uterine Fibroids.*—Dr. Morisani relates three cases in which he excised intra-uterine sessile fibromyomas. His procedure is as follows. The os uteri is dilated with sponge tents, the prominent portion of the tumour is seized and drawn down with a Museux's forceps, and the base of the tumour is secured by means of a Rizzoli's forceps (pinzetta di Rizzoli), which is then tightened. The part below is then cut off with a scissors, and the Rizzoli forceps left *in situ* to arrest hæmorrhage. It is secured to the patient's thigh by a bandage. At the end of ten hours or so it is removed. All the three cases thus operated on recovered. The dilatation secured by the sponge tents was in all three, at the time of the operation, extended by multiple incisions into the cervix.

13. *The Icterus of Menstruation.*—Dr. Rouvier gives the notes of three cases in which menstruation was attended during a year or more by jaundice.—Case I was a healthy woman, aged 29. Menstruation hitherto normal. Since her third and last confinement, the menses diminished in quantity, and were attended by jaundice. Conjunctivæ yellow, pale stools, and bile colouring matter in the urine. No symptoms in connection with the liver or stomach. The uterus was retroflexed. Fäsbender, who saw the case, applied a Hodge's pessary. The jaundice recurred at each of the four following periods, and then disappeared as the menstrual flow increased.—Case II was a young healthy girl, aged 18. Catamenia first appeared at the age of sixteen, and were normal. During more than a year, each epoch was attended by a marked jaundice. There were no symptoms pointing to the stomach or liver. Urine contained bile matter. Uterus slightly ante flexed. This case was also seen by Fäsbender.—Case III was that of a married woman, aged 30, mother of three children. She lived near Marseilles, and consulted Dr. Rouvier on account of a jaundice appearing every month immediately after the cessation of the catamenia. The jaundice lasted a few days, and then completely disappeared. This had occurred during eight consecutive menstrual epochs. There were no liver symptoms. Examination of the uterine organs was not made. The case observed by Dr. Rouvier differs from those of Fäsbender in that the jaundice did not appear until after each epoch, whilst in Fäsbender's cases it accompanied it. Dr. Rouvier states that the treatment of menstrual icterus is the same as that of the catarrhal variety. The only special indication is the use of emmenagogues just before the menstrual periods.

16. *Batley's Operation.*—Dr. Heywood Smith removed both ovaries in a woman, aged 40, in whom the menstrual periods lasted for three weeks out of every four, and were attended by severe dysmenorrhœa. The severity was such that for nine months previously the patient used often to roll on the floor from pain. Her condition was one of extreme prostration, emaciation, and severe retching on any exertion, and rendered her unable to get her living.

Dr. Heywood Smith performed the operation under the carbolic spray. An incision about four inches in length was made through the abdominal parietes in the median line to within about one inch of the pubes. The fingers of the left hand were passed into the pelvis until the fundus uteri was felt. The oviduct was traced out, and the right ovary drawn out of the wound. The mesovarium was then transfixed, and the pedicle ligatured with a carbolicised silk ligature. The ligatures were cut short, and the pedicle dropped in. The left ovary was then treated in the same way. Neither oviduct was included in the ligature. The pelvis was carefully sponged out, and the abdominal wound united by nine silk-worm sutures passed through the peritoneum, but not through the muscles. The wound was dressed with carbolicised gauze and cotton wool, and a flannel binder was applied. The ovaries, examined under the microscope, presented signs of alveolar degeneration. The patient made a good recovery. Two days after the operation, a coloured discharge came from the vagina, which continued for five days. As the patient had menstruated nine days before the operation, this discharge may be counted analogous to one which is not unfrequently observed in patients a few days after ovariectomy. The operation was on April 24th, and on May 30th she went out on a visit entailing a drive in three omnibuses and a walk of over a mile, without experiencing any pain or inconvenience; whereas for one or two years previously she could take no exertion without violent retching. When seen on May 31st, she was well and free from pain. Dr. Smith prefers the operation by abdominal section to that by the vagina, for in the case of the pedicle slipping or otherwise, or hæmorrhage occurring, the difficulty of restraining it becomes infinitely greater in the confined space of the vagina.

17. *Two Cases of Porro's Operation.*—Professor Tarnier has recently performed Cæsarean section, supplemented by the amputation of the uterus and ovaries in two cases.—Case I. M^{me}. X., aged 33, primipara, was brought by Dr. Reinwiller to M. Tarnier on account of the presence of a large fibrous tumour, which completely filled the pelvic cavity, and thus formed a serious complication to her pregnancy. The os uteri was pushed out of the pelvis by the tumour, and was with difficulty accessible by the finger. By abdominal palpation another fibrous tumour could be felt on the left side of the uterus. Professor Tarnier determined to wait and see if the labour pains might displace the tumour; if not, he was prepared to perform the Cæsarean section. Labour set in on Feb. 17th, 1879, when the waters broke. Uterine action gradually passed off, and on the 24th, as the tumour still occupied the pelvis, and the patient exhibited symptoms of septicæmia, M. Tarnier proceeded to make the abdominal incision. The uterus was drawn forwards through the abdominal opening, incised, and a putrid foetus and placenta extracted. The child, a male, weighed 4 kilogrammes 500 grammes. It was impossible to draw the tumour out of the pelvis on account of the firm adhesions it had with the lower part of the pelvic cavity. M. Tarnier therefore shelled it out, and removed the uterus and ovaries. The pedicle, composed of the capsule of the tumour, and the cervix uteri, was fixed outside the abdominal wound, and transfixed with a needle. The abdomen was sewn up with silver sutures. Three days later she died with symptoms of septic poisoning.—Case II. M. C., aged 36, seamstress, was ad-

mitted into the Maternity on March 20th, 1879. She had been in labour two days, and the membranes had ruptured on the 18th. She was rachitic, and only 1 mètre 23 centimètres in height. The pelvis was deformed and contracted, the measurement from the sacrum to the under surface of the pubes being 6 centimètres. Prof. Tarnier therefore proceeded at once to perform the Cæsarean section. A dead female foetus, weighing 3,320 grammes, was extracted. Two iron wire ligatures were placed round the cervix, which was transfixed by a stout needle passed between the ligatures. The uterus and ovaries were then removed and the pedicle fixed outside the abdominal wound. The abdomen was sewn up with silver wire sutures. The patient recovered without any complications, and got up on the 1st May.

18. *Drainage of the Uterus in the Puerperal State.*—Dr. Veit leaves a glass drainage tube in the uterus, or a gum-elastic tube, for several days at a time. He has allowed a glass drainage tube to remain four days in the uterus without any evil result. He considers drainage to be a safer proceeding than syringing out the uterus.

FANCOURT BARNES, M.D.

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. AGNEW.—On Absence of Sight in One Eye.
2. BEZOLD and BECKER.—Treatment of Chronic Suppuration in the Tympanum.
3. BRIÈRE.—Synéchies Antérieures. (*Rév. d'Ophth.*, Paris, 1879, 3 s., i, 385-391.)
4. CANÉ.—Hypertrophie Périkeratique de la Conjonctive. (*Gaz. d'Ophth.*, Paris, 1879, i, 100.)
5. CHEATHAM.—Management of Acute Catarrh of the Middle Ear.
6. FIELD.—On Ear-Disease.
7. FINLAYSON.—Diagnostic Value of the Tuning-Fork.
8. LANDESBURG.—Panophthalmitis Sympathica. (*Klin. Monatsbl. f. Augenh.*, Stuttgart, 1879, xvii, 233-235.)
9. NETTLESHIP.—On Repeated Paroxysmal Failure of Sight in Connection with Heart-Disease.
10. Poisoning by Atropia Collyria.
11. VOLTOLINI.—On the Removal of Foreign Bodies from the Ear.

1. *Agnew on Absence of Sight in One Eye without the Consciousness of the Patient.*—Dr. C. R. Agnew reports the case of an intelligent lawyer, 33 years of age, who saw perfectly well with one eye, while his other eye was so blind as to be practically useless, except as it enlarged his field of vision, without any suspicion on his part that he saw any better with one eye than with the other. Inspection showed the right eye normal in every respect, while vision in the left was only one-thirty-third that of its fellow. Upon examining this eye with the ophthalmoscope, he found that there was no error of refraction, and that the cause of the great functional disability of the eye was a large plaque of choroidal atrophy occupying the region of the macula. This plaque was irregularly circular, about four times as large as the optic disc, richly bordered with pigment, and with large choroidal blood-vessels coursing through it in various directions. It was not very nearly ap-

proached by any of the retinal blood-vessels. The optic disc and other parts of the fundus were apparently healthy. It seemed most probable, from the appearance of this atrophic plaque, and from the fact that there was no history of conscious trouble with this eye, that it was a congenital defect.

2. *Bezold and Becker on the Treatment of Chronic Suppuration in the Tympanum.*—Two recent papers on this subject deserve attention, both on account of the commonness of the affection, and the serious results which may attend it if neglected. Dr. Bezold discusses the antiseptic treatment of these cases. The chief impediments to the employment of complete antisepticism in the ear are the entrance of air by the Eustachian tube, and the impossibility of thoroughly disinfecting all the recesses of the bone. Carbolic acid the author considers too irritating, and liable, when used for a length of time, to render the granulations of the exposed mucous membrane more luxuriant, thus producing a contrary effect to that desired. Alcoholic solutions of salicylic acid when used for a long time produced a diminution, sometimes complete cessation, of the suppuration. The author, however, greatly prefers *boracic acid*, as it exerts no irritating effect on the lining membrane of the middle ear. He uses it in the form of powder in all cases of suppuration in the ear, whether arising in the tympanic cavity or in the meatus, and blows it in as a rule after removal of polypi, cauterisations, and paracentesis of the drum-head. The author's complete antiseptic method of treatment is as follows: 1. The meatus and tympanum are carefully cleansed by the injection of a saturated 4 per cent. solution of boracic acid. 2. After thorough drying and application of the air-douche, finely-powdered boracic acid is blown in, and more of the powder is subsequently shaken into the meatus. 3. The meatus is closed with wool medicated with salicylic or carbolic acid, or with boracic acid lint. These manipulations to be repeated as often as the wool is found moistened with secretion. In private practice, the author uses plain water instead of solution of boracic acid in the first proceeding. A drawback to the method is that the insufflation is followed by tinnitus, often lasting several hours. The author claims for this powder that it has the advantage over *alum* (frequently used for the same purpose) of not forming coagulated and adherent masses with the secretion of the middle ear. The boracic acid insufflations had no effect in otitis media purulenta chronica occurring in pulmonary phthisis; and in well-marked scrofula, and in cases of perforation of Shrapnell's membrane its good effect was also less marked. In other cases of suppuration in the tympanum, acute or chronic (with the exception of those complicated with caries or necrosis), the author found great benefit from this method of treatment. The author combined with the boracic acid inflations the usual means of treating these cases, except that no astringents were employed. The paper closes with a description of seven cases of perforation of the membrana flaccida; in four of these, polypi were present, and three times epidermoid masses were found. For cleansing the suppurating cavity (which in two cases only was ascertained by the air-douche to communicate with the tympanic cavity), the author recommends the use of a syringe with a very fine curved nozzle, which can be inserted through the perforation.—The second paper, to which we have alluded above, is by Dr. Becker. In it the author

advocates strongly the *dry* treatment of chronic supuration in the middle ear. To the usual method of removing the discharge by syringing with warm water, the author objects that it removes the pus very incompletely, especially when the perforation is small, and that, when the pus is removed, it is only replaced by water, which acts as an irritant to the tympanic lining membrane. For several years (in more than 300 cases) the author has strictly avoided syringing, and cleansed the ear entirely by means of a small plug of cotton-wool (carbolised or deprived of fat) held in a pair of forceps. If the perforation be large, the wool can easily be inserted into it; if small, the discharge is driven out into the external meatus by the air-douche, and then removed by cotton-wool. Or a piece of cotton-wool may be placed on the perforation so as to suck up any discharge that may escape during inflation. The author also uses suction by Siegle's speculum for this purpose. The chief advantage claimed by the author for this method is that by it no foreign body is left in the ear as in the case of syringing with water, which must afterwards be removed as best it may. This dry cleansing, as it must of course be performed under direct inspection, with light thrown in by means of a mirror attached to the operator's head, can only be thoroughly carried out by the surgeon. The author applies it daily, at least at first (which would be inconvenient with out-patients), and, if the patient cannot be seen daily, recommends him to cleanse the ear by means of rolled up pieces of soft linen or cotton-wool. He attaches importance to placing a plug of cotton-wool (soaked in carbolic oil, 1 to 10) on the perforation, or on the exposed tympanic lining membrane. The author employs the method, not only in cases of acute and chronic supuration in the middle ear, but also with excellent results in all diseases of the meatus and membrane which are attended with discharge.

E. C. BABER, M.B.

5. *Cheatham on the Management of Acute Catarrh of the Middle Ear.*—Dr. W. Cheatham says, on this subject:—Never put a poultice over an eye or an ear. It is sometimes excusable in diseases of the former organ after all hopes of vision are gone. They give relief at first, but usually leave the organs in a much worse condition than could have been expected from the primary trouble. They lead to the growth of polypi, and get the external auditory canal into such a soggy condition as to render the case almost, if not entirely, incurable. Many, no doubt, have seen ear-aches relieved by their application; but many have also seen perforated drum-heads that can never be healed, recurring polypi, occlusion of external auditory canal, deformity of auricle resulting from abscesses, and many other evils which could have been avoided by the proper treatment. Dr. Cheatham places at the head of all treatment for acute inflammation of the middle ear, local blood-letting. One or several leeches should be applied to the tragus, leaving them there until they are filled; then the flow of blood should be encouraged for an hour or more, the number of leeches and the length of time of the after-bleeding to be controlled by the condition and age of the patient and the severity of the case. When it is impossible to get the leeches, wet cupping over the mastoid region is desirable. Next in efficacy to local depletion comes water as warm as can be borne, by means of a douche (not a syringe), or any other arrangement by which a steady flow of it into the

aching organ may be acquired. A quart or more to be used in this manner, to be repeated every half hour or hour until relief is given. If these remedies fail, do not try anodynes yet. They only mask the symptoms. If the drum-head is bulging, perform paracentesis. The operation is a very easy one. Any one capable of seeing a drum-head should be able to do it. Under good illumination, pass the knife or needle used along the floor of the canal and just posterior to the handle of the malleus; in the infero-posterior quadrant of the membrane make your puncture. Sometimes pus will escape, other times blood or serum. After the puncture is made, cause the patient to perform valsalva, or inflate with Politzer's bag, and blow out any fluid which may be retained there. Where there is any doubt as to the propriety of the operation because the case is not clear, give the patient the benefit of the doubt. With ordinary care, no harm can possibly ensue; whereas, by neglect, irreparable injury may be done. Holes in drum-heads made by knife or needle, soon heal, very often before it is wished; they are usually difficult to keep open. After free vent is given the discharge, anodynes may be used. Give them for their effect, and not by the dose. Quiet the pain; give rest. Give patient his or her choice; leaving it to them entirely. Should the paracentesis close, repeat it as often as necessary. I have seen it done six or eight times in one ear with excellent result. In all ear troubles, and especially in this one, strict attention should be paid to the general condition of the patient. The skin should be kept active as far as possible, to guard against cold. An hour's cold will undo many months' treatment.

6. *Field on Ear-Disease: its General Pathology.*—Dr. P. Field points out the analogies between diseases of the ear and those of similar tissues in other parts of the body. The tissues of the external ear are composed of skin, subcutaneous cellular tissue, fat, muscle, yellow elastic fibro-cartilage and some fibrous tissue. Of the diseases of the skin of the external ear, we have erythema, eczema, psoriasis, pemphigus, lupus, ichthyosis, and purpura. Here, as elsewhere, we must look for a local or constitutional cause, or for both. The subcutaneous cellular tissue may become inflamed from injury or erysipelatosus poison. Of new growths of external ear, we have, from the subcutaneous fatty tissue, fatty tumours; from fibrous tissue, fibrous tumours; from the blood-vessels, large nævi; from the cartilages, hæmatoma auris. In the meatus externus, we have condylomata and epitheliomata, as about the lips. The skin of the meatus is subject to the same diseases as that of the auricle. The outer half of the auditory canal is subject to an ordinary phlegmonous inflammation of the corium and subcutaneous cellular tissue, while the inner half suffers from a periostitis, and cases of necrosis may result if this inflammation be severe. The furuncles of the exterior meatus commence in the follicles of the ceruminous glands; hence, we find them in the lower anterior wall of the meatus. The ceruminous glands produce sebaceous tumours—the cartilage of the wall of meatus enchondroma—the bone at the inner end of canal produces exostoses of both inflammatory and non-inflammatory kind. The outer skin of the membrana tympani is liable to the same diseases as the skin of auricle. The middle or fibrous layer of the membrana tympani is especially liable to calcareous deposits, to fatty deposits, and an increased growth of connective tissue. The mucous

layer of the membrana tympani is especially liable to inflammatory changes, with all the results of the same.

7. *Finlayson on the Diagnostic Value of the Tuning-Fork.*—Dr. James Finlayson states clearly the importance of the tuning-fork in diagnosing aural diseases. Thus, if a large vibrating tuning-fork be applied to the forehead, to the vertex or the front teeth of either jaw, and the sound be perceived by the patient principally or exclusively on the side on which he is deaf, aurists conclude that the difficulty of hearing has a peripheral cause, and is due to some impediment to the conduction of sound. In the opposite case, a lesion of the labyrinth, or one inside the cranial cavity, may be inferred with great probability. If we close the external meatus on one side, and apply a vibrating tuning-fork to the vertex, and if we find the sound much the same on both sides, or less where the meatus is closed, there is a probability of some lesion of the nervous part of the auditory organs on that side.

9. *Nettleship on Repeated Paroxysmal Failure of Sight in Connection with Heart-Disease.*—Two cases in which the above condition existed are fully and carefully reported by Mr. Edward Nettleship. The attacks varied considerably in severity; coming on suddenly, lasting from a few minutes to one or two hours, affecting only one eye, and passing off as quickly as they came on. It is difficult to explain the cause of the attacks; that they are due to disturbances of the circulation, is tolerably certain; but neither embolism, nor a general failure of the cerebral circulation, account for the symptoms. Most probably they are due to a permanent diseased condition of the ophthalmic artery or its branch in the retina, which, in ordinary health, is sufficient for circulatory purposes; but, associated as it is with cardiac disease, is liable to have its blood-current arrested from time to time. [Mr. Jonathan Hutchinson, in the *Medical Times and Gazette*, September 1869, p. 349, notes the case of a young, overworked needlewoman, whose sight suddenly became so misty as to prevent her seeing small objects. These attacks recurred especially in the evening, but sometimes in daylight; any slight mental shock, as breaking her needle, suddenly meeting an acquaintance in the street, etc., would induce an attack. In this case, the temporary blindness was due to failure of an overworked ciliary muscle in an hypermetropic eye.—*Rep.*]

10. *Poisoning by Atropia Collyria.*—In the LONDON MEDICAL RECORD of May 1879, page 174, there is an interesting article on the subject of poisoning by atropia solutions applied to the eye. The writer observes, in the course of the paper, that the question has arisen whether the drug really passes down the lachrymal duct to the throat or is absorbed by the conjunctiva, and that this question appears not yet to have received a satisfactory solution. Perhaps the following short history of what happened during the progress of a case under my care, some few years ago, may assist in solving the question. The subject of the case, a gentleman, well known and highly respected in the Newcastle-on-Tyne district, came under my notice in consequence of chronic degeneration of the lenses. He also suffered from frequent attacks of bronchitis. The formation of the cataracts was exceedingly gradual, for he began to suffer inconvenience in the year 1851, and yet continued, with the assistance of atropia, to be able to read until 1873, in which year

he died. He at first used a weak solution of atropia, afterwards atropia discs, supplied by Brady of Newcastle-on-Tyne, and manufactured, I believe, by Savory and Moore. Several years before this gentleman's death, and when the discs had been employed, with great comfort, for a considerable time, I received a hurried message to visit him. On my arrival at his residence, I found himself and family in some alarm. He had caught a slight cold, and was coughing somewhat; but the alarm was occasioned by his having, as he supposed, spat blood. He showed me a handkerchief spotted here and there with the supposed blood-spots; and stated, that after feeling a slight tickling in the throat, he had spat up some thin frothy mucus containing these colorations. The colour at once attracted my attention: magenta, rather than arterial red, would have been the name to apply to it, and my suspicions were naturally excited as to its true source. Other specimens of the coloured expectoration were subsequently sent to me; they formed small spots upon a piece of white paper. These were examined under the microscope, and were found not to contain blood-corpuscles. I next obtained some of the discs which were at the time in use, and dissolved them in a little water. A drop or two of the solution being placed upon the paper by the side of the supposed blood-spots, the colour of the two sets of spots was at once seen to be identical. I now communicated with Mr. Brady, who informed me that the discs at that time supplied to my patient were fresh ones recently obtained from London; and, on comparing them with the discs previously used, some of which he had remaining in stock, the latter were found to be a good deal thinner than the new ones. My patient was advised to recur to the use of his old discs, and from that time the coloured expectoration ceased. It is evident, I think, that the discs were the source of the coloured spots in the expectoration, the somewhat larger amount of colouring matter in the thicker discs being sufficient to colour a small portion of secretion which passed down the lachrymal passages shortly after the introduction and solution of the gelatine. There were no symptoms of poisoning, the quantity of atropia in each disc being too small to have that effect; but the facts related would seem to prove that matters in solution may readily enough find their way from the eye to the throat by the lachrymal passages.

RICHARD NEALE, M.D.

11. *Voltolini on the Removal of Foreign Bodies from the Ear.*—Professor Voltolini relates the case of a boy, aged $3\frac{1}{4}$ years, from whose ear he removed a glass bead by syringing, according to the following method. The patient's head is placed in such a position that the upper wall of the meatus is lowest, and *vice versa*. This is accomplished by laying him on his back on a table, and allowing the head to hang over the end. The auricle is at the same time drawn in the usual direction. The advantage of this method, according to the author, rests on the fact that (owing to the oblique position of the drum-head), when the position of the head is reversed as above, a foreign body lodged in the hollow formed by the membrane and the lower wall of the meatus, will, when set in motion by a stream of water, roll along the inclined plane formed by the drum-head, and thus be washed out along the upper wall of the meatus. In the present case, the bead was easily removed by this method, although syringing in the *standing posture* on the previous day had failed to bring it away. The proceeding is certainly deserving

of trial when a body which is situate in the hollow above-mentioned is, as the author says, too heavy to be washed out of the ear by the stream of water only.

E. CRESSWELL BABER, M.B.

TOXICOLOGY.

RECENT PAPERS.

1. ALLAIRE.—Empoisonnement par le Salicylate de Soude. (*Union Méd.*, Paris, 1879, 3 s., xxvii, 1,014.)
2. BILLRUTH.—Karboll Intoxicationem. (*Wien. Med. Presse*, 1879, xx, 881-883.)
3. CEMA.—Action of Thevetia Xcotti. (*Phil. Med. Times*, June 7, 1879.)
4. CHAPLAIN.—A Case of Strychnia Poisoning. (*Med. Rec.*, Sept. 1879.)
5. DUROZIEZ.—Intoxication Digitalique. (*Union. Méd.*, Paris, 1879, xxvii, 991-996.)
6. GOSS.—Overdose of Gelsemium Sempervirens.
7. GUYOT.—On Benzine Poisoning. (*Bull. Gen. de Thérap.*, July 15, 1879.)
8. KADE.—Poisoning by Carbolic Acid. (*St. Pet. Med. Woch.*, June 1879.)
9. MASSMANN.—Poisoning with Chloroform and Veratrine. (*Berl. Klin. Woch.*, July 28, 1879.)
10. RANKE.—Possibility of Discovering Strychnia in Putrefying Bodies. (*Virch. Arch.*, 75, p. 1.)
11. SCHULTZE.—Poisoning with Chlorate of Potash. (*Med. Chir. Centrbl.*, No. 28.)
12. SMITH.—Poisoning by Strychnine. (*Chicago Med. Journal*, Sept. 1879.)
13. TURNBULL.—Case of Chronic Bromine Poisoning. (*Med. Rec.*)

3. *Cema on the Action of Thevetia Xcotti and its Glucoside.*—Dr. Cema concludes, from a series of physiological researches conducted in the Philadelphia laboratory, that—1. Thevetin is a very powerful poison, the minimum fatal dose in the common frog (*Rana esculenta*) being 1-60th of a centigramme. 2. Thevetin produces death by asphyxia and by cardiac paralysis, more frequently by the former. 3. Thevetin is an irritant when locally applied to the skin, giving rise to a peculiar burning sensation. 4. The diminution in the number of heart-pulsations produced by thevetin is due to its action on the cardiac muscle—the poison seems to have no action on the pneumogastriacs. 5. The arterial pressure is increased by an action of the drug on the heart itself—i. e., by a stimulating action on the intracardiac ganglia. 6. The primary acceleration in the number of respirations produced by thevetin is due to excitation of the centre in the medulla oblongata, the subsequent decrease and the final cessation of the respiratory movements being due to an action on the functional nerves, and also probably to an action on the muscles of respiration particularly. 7. The convulsions produced by thevetin are cerebral. 8. The paralysis produced by the poison is spinal. 9. As sensation is lost before voluntary movements, and as the nerves remain intact after death, it is evident that the abolition of reflex activity is of spinal origin, and is dependent upon an action of the drug on the sensory tract of the cord. 10. Thevetin increases intestinal peristalsis. 11. Like most other drugs, thevetin lowers the temperature. 12. When locally applied, thevetin produces contraction of the pupil, due to peripheral irritation. 13. In thevetin-poisoning, the salivary is the only secretion markedly increased.

4. *Chaplain on a Case of Strychnia Poisoning.*—The following case is reported by Dr. Chaplain. On the 11th of June he was called to see L. D. Fletcher, who had been seized a few minutes before with convulsions. He had declined to eat breakfast that morning, and a short time afterwards went to the drug store and procured three grains of strychnine, for the purpose, he alleged, of destroying rats. He immediately returned home, and was seen to go to the pump with a cup in his hand, when it is supposed he took the poison. After swallowing the contents of the cup, he washed it out and returned it to its former place. Mr. F. then went into the sitting-room, and, after lighting his pipe, sat down on the sofa. In about fifteen or twenty minutes he fell from his seat in a convulsion. When the doctor arrived, he was lying on the floor with eyes shut, pulse quickened, breathing a little troubled, with tremulous action of the abdomen as it rose and fell with each inspiration and expiration. He never spoke from the time he was first seized, and resisted every attempt to introduce remedies by the mouth. While Dr. Chaplain was with him he had two severe convulsions, with the last of which he had slight opisthotonos. He died while in this second convulsion, in twenty minutes after the first seizure, and about thirty-five minutes from the time he swallowed the poison.

6. *Goss on the Effects of an Over-Dose of Gelsemium Sempervirens.*—Dr. Goss reports the following case. A lady of nervous temperament took a teaspoonful of fluid extract. Dimness of vision came on in an hour, and was followed by paralysis of muscles of lower jaw and tingling of the extremities. Five and a half hours later she was conscious, but believed herself to be dying. There was difficulty in swallowing, faintness, difficult articulation; tongue stiff, open mouth; pupils widely dilated and immovable; pulse 132, and feeble; respirations 27, and regular. Carbonate of ammonia and galvanism were used, and the patient recovered, having suffered, also, from epistaxis.

7. *Guyot on Benzine-Poisoning.*—M. Guyot reported at the meeting of the Société des Hôpitaux, June 27, the following case, which had come under his notice for the second time. The patient is a distiller of benzine, and sometimes distils from 1,000 to 1,500 kilogrammes of it daily. When seen by the reporter he exhibited the following symptoms: he was in a state of stupor, his eyes were wide open, the teeth set, general excessive hyperæsthesia and aphasia were present. The first time he had this attack there was no hyperæsthesia, but general anæsthesia instead. The right side of his face was paralysed, and he had a kerato-conjunctivitis of the corresponding eye. He was delirious. The patient had recovered from his first attack; he was, at the present time, in a state of profound stupor, and refused to take food. M. Quinquaud remarked during the subsequent discussion that, in 1873, he had the opportunity of studying the effect of benzine upon health in benzine factories. It is apt to cause anæmia and nervous disorders, such as paralysis, anæsthesia, hyperæsthesia, disturbance of the sexual functions, considerable excitement, but no stupor, as had been noticed in M. Guyot's case.

8. *Kade on a Case of Poisoning by Carbolic Acid.*—At a meeting of the German Medical Society of St. Petersburg, Dr. Kade reported the following case of poisoning by carbolic acid, which had come under his notice. A young girl was brought to the hospital in a state of unconsciousness. The pulse

was small and frequent, the pupils contracted, her lips were covered with white froth. It was impossible to produce any reflex movements. Her body was inflated, and a few small whitish spots were scattered on the mucous membrane of her mouth. As she was unconscious, it was impossible to ascertain with what she had poisoned herself. An enema was given, after which the bowels were moved, but the stools did not smell of carbolic acid. The vomited matter, however, had its characteristic smell. She only began to vomit on the following day. On the second day she recovered consciousness, and was able to say that she had taken a dose of carbolic acid. On this day she, for the first time, passed her urine, which was of a dark green colour. The colour of her skin was dark and livid; the temperature remained at 105°. Her fingers twitched slightly, the twitchings being very similar to those that are observed in athetosis. She died seventy-two hours after she came under observation. The *post mortem* examination revealed erosions in the stomach; the blood was dark and liquid, and the sinus gorged with blood.

9. *Massmann on a Case of Poisoning with Chloroform and Veratrine.*—The following case is reported by Dr. Massmann. A lad, aged 16, who was suffering from recurrent fever and neuralgia in the right thigh, had been ordered to take a solution of sulphate of quinine, and to rub his thigh with a mixture consisting of chloroform and ol. lini. aa 15 grammes, and 1 decigramme of veratrine. During the course of the day the patient had used about 2 teaspoonfuls of the solution of veratrine, leaving about 24 grammes of the drug in the bottle, which amounted to 12 grammes of chloroform, 12 of oil, and 8 centigrammes of veratrine. The patient had not eaten anything since 5.30 in the afternoon. At 8 P.M. the patient took one half of the solution of quinine; at 9 P.M. his mother, by mistake, gave him, instead of the remaining half of the quinine mixture, the whole of the veratrine mixture in a cup, which he drank off at once. His mother was the first to notice the mistake. When Dr. Massmann saw the boy at 9.15, his pulse was 80, the respiration was not quickened, the temperature in the rectum normal. The patient complained of burning in the throat, and of feeling very sleepy. Both pupils were partially dilated, reaction good; no pains in the abdominal region, not even on pressure. The breath of the patient smelt strongly of chloroform. He had not vomited. The usual treatment was at once carried out, viz., cold black coffee, ice, and an emetic given, consisting of tart. stib. and ipecac. powder. This had no effect. Five decigrammes of sulphate of zinc was then given, and, at 10 P.M., the patient vomited copiously. The vomited matter consisted mostly of coffee, and did not smell of chloroform. The burning sensation in the throat ceased after the patient had swallowed a quantity of ice. One hour and a quarter after taking the veratrine, the patient complained of itching in the nose. At 10.20 he fell asleep, the temperature was normal; respiration 20; pulse 70. The breath no longer smelt of chloroform. The pupils reacted well. The patient could be easily roused, but complained of fatigue, fell asleep again, and slept during the whole of the night. The next day his bowels acted spontaneously and copiously. The faces were hard. The abdomen was neither swollen nor painful. A slight burning sensation in the throat and stomach soon ceased after taking small pieces of ice. The itching in the nose was very moderate. Pulse 60.

Slight frontal and occipital headache. He vomited once spontaneously in the course of the morning. The next day the patient was well, except a slight tenderness in the region of the stomach. On the day after he again went about his work as usual.—*Remarks.* The maximum dose of veratrine is 3 centigrammes *pro die*. The patient had swallowed 8 centigrammes at once, together with 12 grammes of chloroform, which is given in doses of 20 drops several times a day. The vomiting did not set in till about an hour after the patient had taken these large doses. It appears from this that veratrine, like chloroform, is absorbed slowly if taken by the mouth; perhaps the presence of oil rendered this absorption still more slow. Ziemssen says that veratrine is comparatively slowly absorbed from the stomach. The itching in the nose is a proof that a certain amount of the poison must have been absorbed. Esche (Husemann's *Mat. Medica*, ii, 909) says that after taking 3 centigrammes of veratrine he collapsed, and vomited after taking 12 centigrammes. It is further very remarkable that the patient only vomited after a strong emetic. Perhaps this was owing to the chloroform he had swallowed. Another curious fact is that no disturbances arose in the intestinal tract, although the drug had remained in the stomach nearly an hour. Ziemssen (vol. xv, p. 410) says that cats died in from one to two hours after taking 5 centigrammes of veratrine, and that symptoms of poisoning were noticed in human beings after taking 0.15 of veratrine. The chloroform caused in this case great sleepiness, which was rather fortunate, as the patient was much excited, and very anxious. Ziemssen (*loc. cit.*, p. 133) says that from 3 to 5 grammes of chloroform taken by the mouth kill the patient. M'Clellan gave a dose of 0.36 centigramme of chloroform every ten minutes in cases of cholera; and Adams 2 grammes by the mouth in pulmonary and cerebral apoplexy. It would, perhaps, be advisable in similar cases, to use at once sulphate of zinc if no apomorphine can be had, as tart. stib. does not act quickly enough.

10. *Ranke on the Possibility of Discovering Strychnia in Putrefying Bodies.*—The author conducted his experiments on dogs of various sizes and species, to which he administered 1 decigramme of nitrate of strychnia. He has come to the following conclusions respecting the possibility of detecting strychnia in dead bodies. 1. It was not possible to prove the existence of the poison by a chemical test in dogs which had been poisoned with the dose we have mentioned above, and which would prove fatal to a human being, after it had been buried 100, 130, 200, and 230 days. 2. The presence of the poison could, however, be suspected from the peculiarly bitter taste of extracts of dogs who had been buried in the earth for 330 days. 3. The physiological test of strychnia is much more delicate than the chemical test. Frogs who had had a cold-water solution of the extracts injected under the skin of their backs exhibited violent tetanic symptoms a very short time afterwards. The effect of the poison was especially strong if the extracts were won from animals who had been buried only 100 days, but even after remaining in the earth for 330 days, the extracts would produce the symptoms of strychnia-poisoning in frogs. 4. The physiological reaction is the same, whether the bodies have remained in a moist or in a dry soil. 5. Extracts which have been prepared from bodies which are far advanced in putrefaction, produce a peculiar effect in frogs. The

animals seem to become prostrate and stupefied, and the action of the heart is rendered much more feeble and slow. This is often apt to partially cover and retard the action of the strychnia. This effect is most striking when the extract is prepared from the bowels, less so striking when it is made from the stomach, and least when the extracts are prepared from the liver and spleen. 6. The physiological action of strychnia is seen most distinctly when the extracts are prepared from the liver and spleen. This is not a new discovery, in so far that it has long been known that in cases of strychnia-poisoning traces of the poison could be discovered in these organs *par excellence*. The tests were all made by very competent observers, authorities on the subject.

11. *Schultze on a Fatal Case of Poisoning with Chlorate of Potash.*—The following case is reported by Dr. Schultze. He was called to see a boy, aged $3\frac{1}{2}$ years, ill with diphtheria. The treatment consisted of a solution of chlorate of potass (2.120) to be taken as a gargle; at the same time, the patient's throat was to be painted twice a day with a 10 per cent. solution of salicylic acid in rectified spirit. In a few days the patient recovered, but the author was struck with the cyanotic appearance of his face, the parents having noticed before that the boy was very somnolent. The next day, the patient's face and his motions were black. The somnolence and cyanotic appearance had increased. The boy's mother said that she had been sending to the chemist's for chlorate of potass, and that the child had been gargling with it. Upon inquiring at the chemist's shop, the author was informed that since he first saw the patient, *i.e.*, for the last four days, 30 grammes of the drug had been bought by the patient's nurse. The latter subsequently confessed that she had been in the habit of giving the child the solution as a beverage when he complained of being thirsty. The patient died on the seventh day with all the symptoms of prostration, cyanosis, and violent gastro-enteritis. It appears from this case, that a rather weak solution of chlorate of potash may act as a violent poison, for it is evident that the 30 grammes of the salt must have been dissolved in a good deal of water. Judging from this instance, the drug seems to have the property of producing great somnolence, besides creating a considerable irritation of the stomach and mucous membrane of the intestinal tract. It is probable that the somnolence stands in some relation to the cyanosis, and that both are caused by the presence of carbonic oxide in the blood; the latter being due to paralysis of the heart. The author is doubtful whether to ascribe the presence of carbonic oxide to irritation of the vagus nerve, or to paralysis of the cardiac gangliary system.

12. *Smith on Poisoning by Strychnine: Prompt Recovery after Administration of Bromide of Potassium.*—The following case is recorded by Dr. Smith. On the evening of July 7th, 1879, I was hastily summoned to a livery office, where the young man in charge, aged about 20, was affected with very severe convulsions. I could elicit nothing further than the answer "No" to all questions, and the surroundings gave no clue to the mystery. I lost no time in giving an heroic emetic, with orders to those in attendance to hurriedly get some milk and warm water, while I returned to my office—a distance of one block—for medicine. While gone, his employer succeeded in ascertaining that strychnine had been taken. I at once gave milk and 4 grammes of the

bromide of potassium, waiting sufficiently long for the effects of the emetic, with no results. Of the bromide, gave from 15 to 30 grammes within one hour, during the last half of which the rigidity became less and less marked, and was soon followed by vomiting, and nearly complete relaxation. With occasional muscular twitchings, the patient fell asleep, and awoke to recovery without an unfavourable symptom, resuming his work on the 9th. Since his recovery he has stated that the day before his illness he purchased five cents worth of strychnine, the whole of which was taken, making a piece, as he says, about the size of a pea. This was taken about six o'clock in the evening of the 7th, and was soon followed by muscular twitching, which continued. When found, he was in a continuous and persistent spasm from head to foot, with an alarming opisthotonos, and extremities cold to body. For awhile it was difficult to administer medicine, but, keeping the jaws apart by the introduction of a fan-handle, small amounts were constantly introduced. The point of special interest to me is the promptness with which the patient was relieved by the rather heroic use of bromide of potassium.

13. *Turnbull on a Case of Chronic Bromine Poisoning.*—A. M., a man of large frame, 54 years of age, and of good constitution, had worked in the manufacture of bromide of potassium for ten years; the bromine gas, he avers, was at times so strong as to cause him to spit blood. The first symptoms that he noticed occurred more than a year ago, and were alternate diarrhoea and constipation; then followed vertigo and photopsia, together with some loss of co-ordination and anæsthesia of the lower extremities, but these symptoms were not severe enough to prevent his working, which he continued till August. The derangement of vision increased, but in December he could still read; about this time the photopsia gave way to amaurosis, which progressed, within a year from the first symptoms, to almost total blindness. There was great constipation, with enlargement and hardness of abdomen; dysuria and retention of urine, with vesicle pain, were also prominent symptoms. The heart was irritable. The olfactory and gustatory functions were unimpaired, and there was no loss of memory. While under Dr. Cohen's care in the German Hospital there was some improvement in the co-ordination. Dr. Charles S. Turnbull, at whose instance the case was admitted, had diagnosed the following conditions: incipient atrophy of both optic nerves; the vision had diminished one half, the discs were white, the arteries small and thready, and the retina anæmic, while there was loss of colour perception and mydriasis. He also examined the urine, in which he discovered some traces of bromine. Professor Da Costa, who saw the case at the clinic, considered that there was also sclerosis of the anterior columns of the cord. There are but few reported cases of chronic bromine gas poisoning, which renders the above of some interest.

REVIEWS.

On Deafness, Giddiness, and Noises in the Head.
By EDWARD WOAKES, M.D. London: H. K. Lewis. 1879.

This book, as the author tells us in his preface, consists, in large part, of material which has already appeared in different medical periodicals.

The title of the work is, we think, not well chosen. For of the three symptoms of which it consists, only the last-named one (noises in the head) is at all fully treated. "Deafness" alone would involve a consideration of almost all the diseases of the ear, and the subject of "giddiness" necessarily includes a description of that which is secondary to disease of the middle ear, which is, however, only casually mentioned in this work. Turning to the contents of the book we find them full of interest.

In Chapter I the author treats of ear-diseases in early childhood, and explains, according to his theory of correlated nerve-tracts, the origin of inflammation of the drum-head and middle ear, from teething in children and from decayed teeth in later life. From the close connection between the brain and tympanic cavity, the author is of opinion "that when brain-symptoms develop themselves in an infant it is to the ear that attention should primarily be directed". He is "more and more convinced that many obscure and often fatal illnesses in children, which from their affinities are regarded as acute cases of hydrocephalus, or brain fever, would, if examined from an aural point of view, be found either to originate in this organ, or be due to its implication in a reflex way". Simple reflex otitis from teething the author treats (after lancing the gums) by leeching, tincture of aconite, warm water gently run into the ear, bromide of potassium, and, finally, myringotomy. Rolling of the head from side to side in children he considers points unmistakably to labyrinthine mischief. He regards it as the counterpart of vertigo in adults.

Chapter II treats of ear complications in the exanthemata, and, although it contains nothing absolutely new, the author has done good service by again drawing attention to the importance of keeping the drum-head under observation from the commencement of an attack of any exanthem. Contrary to some authors (*e.g.*, Politzer, Burnett), he recommends that the membranes should be punctured in front of the malleus, as "in this portion the wound is nearest to the opening of the Eustachian tube, a circumstance which enables the after treatment to be most advantageously carried out".

In Chapter III the author deals with ear-cough and laryngeal complications dependent on ear-disease.

The next chapter treats of cases of giddiness in which the auditory apparatus was previously quite healthy, but which may or may not be found affected after the attack. The author traces the connection between stomach-irritation and these attacks of vertigo, and considers them due to a reflex dilatation of the internal auditory artery, causing an increased flow of blood into the semicircular canals.

The two following chapters are devoted to a consideration of tinnitus, its etiology, diagnosis, and treatment. Congestion of the labyrinth giving rise to pulsating or buzzing noises, the author treats, as is well known, by hydrobromic acid. The author holds the view that, "for every noise experienced by the patient there exists a definite objective cause", and also that "for a sound to be heard a sound must exist". Although he argues against pressure exerted by the stapes on the endolymph being a *vera causa* of tinnitus, he admits that such pressure, by crowding the delicate elements, including the capillaries of the perceptive apparatus of the cochlea upon each other, may produce a rushing tinnitus due to compression of these vessels. The author describes at length the symptoms produced by a

strong dose of tobacco smoke, and considers that the peculiar mobility of the vaso-motor centres occurring in great smokers is transmitted by them to their offspring, giving rise to ear-disease, croup, and extreme liability to nasal catarrh. He draws attention to the restorative influence excited by camphor over the suspended inhibition of the sympathetic ganglia, induced by an overdose of tobacco smoke, and recommends it in tinnitus due to hyperæmia of the middle ear, employing it locally in the form of vapour. For the purpose of overcoming adhesions of the membrana tympani to the inner wall of the tympanum, the author recommends forcible suction by an instrument which he terms the pneumatic tractor. The chief disadvantage of this appears to us to be that the membrane cannot be inspected whilst the suction is being made. By applying a suction instrument to a Siegle's speculum, made sufficiently strong, we think this disadvantage might be avoided. If, during the suction, rupture of the membrane occurs, the author considers this is in every respect an advantage, as it allows a more ready medication of the tympanic cavity. The publication of cases in which this treatment has been of permanent benefit would be of great interest, as they form a class of cases which are often rebellious to ordinary treatment.

The author appears to attach some value to the use of electricity in tinnitus. He recommends the constant current on account of its electrolytic action for removing hyperplastic thickening of the Eustachian tube and middle ear, and regards it as of value in tinnitus on account of its diminishing the excitability of the sensory nerves, allaying the hyperæmia, etc. Whether the author has by this means succeeded in removing hyperplastic thickening of the middle ear does not appear. The Faradic current he recommends in immobility of the conducting media, and in loss of power of the intrinsic muscles.

The stapedius he brings into action by applying the current to the chorda tympani as it crosses the drum-head, and the tensor (through the fifth nerve) by applying electricity to the surface of the drum-head.

A final chapter on the co-ordinating functions of the sympathetic ganglia and their influence on herpes, neuralgia, etc., concludes the work.

We have not entered into a consideration of the author's theories, as it would have been impossible to do justice to them in a short space; and to those of our readers who are not yet acquainted with them, we recommend a perusal of this little work. It is eminently suggestive in character, and is of interest, not only to the otologist, but to the practitioner of general medicine or surgery.

Several diagrams, showing the connection between distant organs through different sympathetic ganglia, serve to illustrate the text.

E. C. BABER, M.D.

Neurological Contributions. By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the City of New York, etc., assisted by WILLIAM J. MORTON, M.D. Vol. i, No. 1, pp. 104. New York: G. P. Putnam and Sons. 1879.

Under the modest title of *Neurological Contributions* we welcome another serial devoted to diseases of the mind and nervous system. Any contribu-

tion to medical literature from the pen of so learned and successful a physician as Dr. William A. Hammond will always be welcome and worthy of special attention. And his contributions in the present number of the new periodical are a sufficient evidence of the fact. Nevertheless, one may be permitted to doubt if the narrow basis upon which the new journal rests, as indicated by the following advertisement of the publishers, will be found sufficient to obtain a large circulation, or maintain a sufficiently high standard of excellence to command support. The scheme is briefly this:

1. Memoirs by Dr. Hammond on important subjects connected with the mind and nervous system in health and disease; including reform in the management of lunatic asylums.

2. Reports of interesting cases occurring in private practice.

3. Reports of the clinic for diseases of the nervous system at the University of New York, prepared by Dr. Morton.

4. Short notices of the more important publications relating to the nervous system.

The present number opens by a paper from the pen of Dr. Hammond on the Non-Asylum Treatment of the Insane. Dr. Hammond urges, with truth, that many cases of mild insanity might be treated at home with success and with greater comfort to the patient. Incidentally, in support of his thesis, he draws a lamentable picture of the management of asylums in the United States. From it we learn that many patients never see the medical superintendent during a residence of several years. That in one case which came under his notice lately, the patient, upon whom an inquisition was held, and who was found sane, the medical superintendent told one of the medical men who was sent to examine the patient, that until that moment he did not know that he had such a person under his care. We are also told that many superintendents of lunatic asylums in the States have had no practical experience with, or theoretical knowledge of, insanity, before being, by social or political influence, placed in charge of some large institution containing hundreds of insane persons. One such person had been a lawyer, a teacher, a superior court clerk, a physician practising three years, a captain in the confederate army, twice a member of the legislature, a member of the Constitutional State Convention, an aide-de-camp to the governor with the rank of colonel, and that, then declining "many offers of distinguished political positions, including that of lieutenant-governor", he accepted the office of Superintendent of the Insane Asylum at Raleigh, the duties of which he is said to perform to the satisfaction of both political parties. As a remedy for this state of things, Dr. Hammond would, where possible, treat mild cases of insanity in their own homes, more severe ones in the houses of medical men who would receive one or more patients up to six, and that, as in the cases of dangerous patients, and those belonging to the poorer classes, where the above mode of treatment could not be resorted to, asylums would be necessary. He would advocate a medical staff, visiting and resident, of twenty members to an asylum containing 600 patients, and, in addition, he would have a large number of young medical men resident for short periods. All new asylums he would have built in separate blocks, or houses to contain not more than six patients, and thus to facilitate sharp classification. We hope that the picture of asylum management in the United

States has been somewhat overdrawn, unconsciously, in the desire to promote the better treatment and cure of the insane. At any rate, America would seem in this particular to be behind the older countries, although she is certainly in advance (?) of them in one particular; for we find it stated that, at the State Asylum of New York at Middletown the practice is exclusively homœopathic!

Some of Dr. Hammond's recommendations strike us as of rather a retrograde order, viz., the establishment of a number of houses for the reception of six patients, would seem to be only increasing the number of asylums, and rendering classification more difficult. Dr. Hammond does not, we observe, make any suggestion as to supervision, but rather advocates what one might term free trade in physic.

The most interesting paper in the present volume is one on Arrest of Development. In it Dr. Hammond describes the cases of three idiot boys born of the same parents. They are members of a family of nine persons, all of whom, with the exception of the individuals described, are and have been perfectly healthy and of normal intelligence. The father died of phthisis, and for many years had been of very intemperate habits; the mother was intelligent, sober, and industrious. There was no history of insanity on either side. One healthy and intelligent child was born between the birth of two of the idiots. A photograph of the three idiot boys is given, and from it may be observed the Mongolian cast of features, disproportionate size of the face to the brain-containing part of the head, protuberant abdomen and tendency to umbilical hernia, with want of genital development. These characters, together with the low mental development of the children and stunted growth, induced Dr. Hammond to classify them with the semi-Crétiens of the Alps.

He then asks the question, Does Crétinism exist in New York? Answering, "I do not see why it should not. We do not know with any degree of certainty what its causes are, and we may safely assume that, if deficient sunlight, noxious air, impure water, bad food, insanitary habitations, and the thousand other factors of mental and physical deterioration, are capable of causing Crétinism, we ought to have Crétiens right in our very midst. A New York tenement house is assuredly a worse place in every respect to rear children in than any valley in the Pyrenees or Alps."

No definite information could be obtained as to the state of intoxication or otherwise of the father at the time of conception, and Dr. Hammond is of opinion that, if the fact of intoxication in such cases could be established, it cannot have more weight given to it than that of being a possible cause, for it must be certainly true that many children of good mental and physical development are conceived, the fathers having been in a state of beastly intoxication at the time of intercourse.

Under the heads of Records of Practice and Clinical Cases are reported many interesting cases full of valuable suggestions as to treatment.

Contemporary Literature is treated in a very meagre fashion, and consists in short notices of one or two reports of asylums, etc.

The volume is well got up, the paper being of excellent quality, and the typography clear and distinct. We shall look forward with interest to the succeeding numbers of the series.

CHARLES ALDRIDGE, M.D.

NEW INVENTIONS.

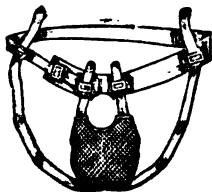
PURE CARBOLIC ACID.

When carbolie acid is impure it is not thoroughly soluble in water, and minute particles of it, acting upon the epidermis, produce a caustic effect. The very pure form of carbolie acid prepared by Messrs. Bowdler and Church, Bickerdike, near Manchester, makes a clear, perfect, and brilliant solution, and if used of the strength recommended by Mr. Lister, 1 of acid in 40 of water, causes no inconvenience. It is the form of carbolie now employed by Prof. Lister, and is likely to gain universal, as it has already rapid, preference by surgeons.

THE HAMMOCK SUSPENDER.

The hammock suspender seeks to remedy the inconveniences of the old bag suspensory bandage, and in addition give several advantages of great moment in the treatment of diseases of the scrotum and its contents, without producing discomfort to the wearer. None of the improvements lately introduced have remedied these defects without producing others equally offensive. In order fully to appreciate the annoyance of an ordinary suspender, it is necessary that it should be actually worn for a day, and when to this is added the pain of orchitis or the weary drag of a varicocele, the positive pain and suffering is much increased.

The disadvantages sought to be remedied are these:—1. Impossibility of getting any support by pressure upwards. 2. Liability of scrotum to slip backwards out of bag. 3. Chafing and irritation of skin when the posterior string is tightened to prevent this. 4. The strangulation of contents of scrotum and consequent aggravation of disease by the constriction of the neck of scrotum. These are simply due to the fact of the bag of the suspender having an anterior attachment only above the pubes. This has recently been sought to be remedied by the attachment of a single posterior strap; but modify this single strap as one may, it is a great irritation to the anus and the coccyx during sitting and stooping, and requires to be disconnected previous to defecation.



For some time past a thorough trial has been given to this form of suspender, and it has been found to thoroughly overcome the above objections, and to take a prominent place in the active treatment of the diseases of the testicles. Its advantages are these:—1. Any degree of elastic support can be obtained by pressure between the suspender and the pubes. 2. At the same time that the penis is left free, there is no constriction of the root of the organ or neck of the scrotum, and the testicles are immovably fixed. 3. There is total avoidance of the chafing of any edge, nor is the return of blood in any way interfered with, the pressure being between the flat silk surface of the

suspender and the surface of the body. 4. The arrangement of the straps is such that they cause no discomfort: sitting, stooping, defecation, micturition, and any other functions being performed without any interference or restraint. 5. The straps are elastic and fitted with sliding buckles, so that the pressure can be both varied and maintained. 6. There is a spare purse attached to such for the sake of personal cleanliness, so that when one is soiled it may be removed and cleansed, the other fitting on to the same band.

Made by J. S. Haywood, Castle Gate, Nottingham, at the suggestion of Rupert Cecil Chicken, Esq., L.R.C.P., Nottingham.

MISCELLANY.

MORTALITY IN THE TROPICS.—The average annual mortality of Pará, Brazil, is about 60 per 1,000; in St. Kitts, West Indies, the annual mortality rises as high some years as 74 per 1,000. Throughout the West Indies the autumn is the most unhealthy season, and dysentery and yellow fever the most fatal epidemics. A correspondent of the *Southern Clinic* attributes the short lives of Europeans in the West Indies chiefly to exposure to cold and dampness, and to alcoholic beverages.

WHAT FORM OF BLINDNESS DID HOMER HAVE?—Modern investigation is reinstating the blind old bard. Dr. Schliemann has proved that he sung of a real Troy and an actual war. Recent critics concede him to have been a true poet, and not a myth or a mere collector, as Wolfe taught. And now another Wolfe, this time a surgeon, and of Glasgow, has published a pamphlet in which he is pretty successful in showing that the singer of the *Iliad* certainly had an ocular defect, not colour blindness, as Mr. Gladstone thinks, but amblyopia, from Egyptian ophthalmia. The evidence is collected from the treatment of colours in the poem.

THE TALMUD ON MEDICAL MATTERS.—Mr. Magnus, sen., of Berlin, publishes in the *Deutsch. Archiv f. d. Geschichte d. Medicin* (1879. p. 260), the following passages from the Talmud. At the head of all diseases am I, the Blood; at the head of all remedies am I, the Wine. Eat hearty, you will feel its effects when walking. A drop of cold water mornings (in the eye), and washing the hands and feet in the evening are better than all eye salves. Before a distant physician may arrive the eye may become blind. Badly off is the town whose physician has the gout, and whose oculist only has one eye. Honour the physician before you need his services. *A physician who makes gratuitous cures is of no account.* The door which is closed to prayers for alms opens for the physician.

THE EXPRESSION OF GRIEF.—This has recently been a subject of investigation by an Italian physiologist, M. Paolo Mantegazza, who has studied with great care all the contractions which suffering produces in the human face, and endeavoured to arrive at an exact distinction of the phenomena of real from those of simulated sorrow. All the forms of dolorous hypocrisy he exposes mercilessly. The following, according to M. Mantegazza, are signs of feigned grief:—1. The expression is nearly always exaggerated relatively to the cause of the grief; 2. The visage is not pale, and the muscular disturbance is intermittent; 3. The skin has its normal heat; 4. There is not harmony in the mimicry of grief, and one sees certain contractions, certain relaxations which are wholly wanting in real grief; 5. The pulse is frequent, in consequence of the exaggerated muscular movement; 6. A surprise, or any object which vividly attracts the attention suffices to make the tragic mask immediately fall off; 7. Sometimes one succeeds in discovering among the tears, the sobs, and the most heart-rending lamentations the presence of a chuckle, which ex-

presses perhaps the malignant pleasure of practising a deception; 8. The expression is very eccentric, or is wholly wanting in concentric forms.

RABIES IN DOGS.—A contribution to knowledge of this disorder has been recently made in the *Comptes-Rendus* by M. Galtier. The most important of the conclusions which he draws from his experiments is that the saliva of a mad dog, obtained from the living animal and kept in water, continues virulent five, fourteen, and even twenty-four hours afterwards. This fact has consequences which everybody should be aware of. Thus it seems that the water of a vessel in which a mad dog may have dropped some of its saliva in attempting to drink should be considered virulent at least during twenty-four hours; and next, that as the saliva of a mad dog which has succumbed to the malady or has been killed does not lose its properties through mere cooling of the body, it is important in examining the cavities of the mouth and throat after death to guard against the possible danger of inoculation. M. Galtier tested rabbits with regard to rabies, and found it transmissible to them from the dog; also the rabbits' rabies from them to animals of the same species. The chief symptoms are paralysis and convulsions. The animal may live from a few hours to four days after the disease has declared itself. It is notable that the period of incubation is much shorter in the rabbit than in other animals, and this makes the rabbit a useful reagent for determining the virulence of a particular liquid. M. Galtier found salicylic acid, injected daily under the skin, powerless to prevent the development of the disorder in rabbits.

MBOUNDOU, THE ORDEAL POISON OF AFRICA.—M. Testut (*La France Médicale*) has published recently the results of his observations on the action of the mboundou poison. Much depends, he says, on the dose and the mode of administration. Small doses produced in frogs invariably convulsive symptoms, showing increased reflex excitability. Large doses paralysed the animal almost instantly; respiration ceased, and reflex excitability was completely suspended, although the heart continued to beat with normal regularity. The author believes that the drug contains two poisonous principles, the one exciting reflex activities, the other paralysing the nerve centres, and so producing death when large doses are swallowed without the supervention of convulsions. The poison is eliminated through the usual channels, in the case of the frog chiefly by the skin. The abdominal lesions found after death from this poison are of a congestive nature, and similar to those found after poisoning by strychnia and agaricus. These lesions, not being due to a direct or topical action, must be attributed to the vaso-motor centres in the spinal cord, disordered in their function by the absorption of the poison. The mechanism of death from this poison in the higher animals is probably asphyxia, by arrest of respiration, a pulmonary anæmiasis.

CHEMICAL COMBINATIONS.—*Appleton's Journal* contains a calculation by Berthelot, the eminent chemist, of the number of combinations which may be made of acids with certain alcohols. He says, "If you give each compound a name, and then print 100 lines on a page, and make volumes of 1,000 pages, and place 1,000,000 volumes in a library, you will want 14,000 libraries to complete your catalogue."

THE NEW ELEMENTS.—Since 1877 the following new elements have been discovered:—*Davyum*, discovered by Kern, and named after Sir Humphrey Davy; *Mosandrium*, discovered by Prof. Lawrence Smith of Louisville, Ky., and named after the Swedish chemist Mosander; *Philippium*, discovered by De La Fontaine, and named after Mr. Philippe Plantamour of Geneva; *Yterbium*, discovered in the earth yttria by Prof. Marignac of Geneva; *Decipium*, discovered by De La Fontaine, and so named because of its deceptive properties (from *decipio* to deceive); *Neptunium*, announced by Hermann in 1877; *Lovæsum*, announced by Pratt in 1877; *Scandium*, announced (March 12, 1879) by Nilson of Upsala.

THE HYPODERMIC INJECTION OF MORPHIA.—Dr. H. H. Kane of New York City, who has for some time past been collecting statistics on the hypodermic injection of morphia, will consider it a favour if members of the profession having had experience in the use of this instrument will answer the following questions. 1. What is your usual dose? 2. Do you use it alone or with atropia? 3. What is the largest amount you have ever given at one time? 4. Have you had any inflammation or abscess at the point of puncture? 5. Have you had any deaths or accidents thus produced? 6. Do you know of any cases of the opium habit from the use of this instrument? In case of death please give the results of the autopsy, if any was held. Any reference to journal or other literature on this subject will be thankfully received. All communications will be considered strictly confidential, the author's name not being used, unless permission to that effect is freely given. Address all communications to Dr. H. H. Kane, 366, Bleecker Street, New York.

THE HIGHER APES.—At the annual meeting, held this year at Saratoga, of the American Association for the Advancement of Science, Mr. W. F. Hornaday read a paper on apes, illustrating it by stuffed specimens mounted on trees. He described the orangs of Borneo, and their man-like features, and stated that the faces of the orangs show as much individuality as those of the Malays or Chinese—each one has an expression of its own, and a very intelligent one. A drawing was shown of a pet infant orang owned by the speaker, an account of which was given to the audience. This little fellow behaved in all respects like a human baby, exhibiting every emotion of fear, delight, anger, etc., just as a child would do. The male orangs were described as fighting a great deal. All the old ones are covered with scars inflicted by the formidable canine teeth which these animals use wholly for defence and offence, since they are fruit-eating, and hence do not employ them in chewing. Their effort is always to seize the arm or head of an enemy, and draw the fingers or lips into their mouth, instead of advancing their own heads to bite. The genus *Simia*, to which the orang belongs, inhabits Sumatra and Borneo. Borneo was chosen as the speaker's hunting ground, and an expedition made into the interior in August. At this season the orangs were along the river courses in the forest, and Mr. Hornaday's party pursued them in boats, the banks of the great river being everywhere flooded. The method was to shoot them on first sight, otherwise they would escape. The presence of these apes was indicated by their nests, of which many were seen. These nests occupy the tops of small trees, into which the orang climbs, breaks the branches out of the centre and piles them into a thick platform, upon which he sleeps. His pastime is to lie flat upon his back, with his arms and legs extended upward, firmly grasping the nearest limbs. The same nest is occupied several nights, or until the leaves have fallen from the branches. The explorer had never seen anything like the huts which these apes have been reputed to build, but he thought it probable that the orangs cover themselves with leafy branches in stormy weather. His pet orang, he had noticed, used straw for the same purpose at such times, even when a roof was overhead. The orang cannot possibly stand erect, never steps upon the ground if he can help it, and is unable to swim. He is not active nor graceful, and is the most helpless of the quadrupeds. His favourite mode of progress is by swinging along underneath the branches like a gymnast. The natural position of the hand is clinched. The length of the male has never been known to exceed 4 ft. 6 in., and it is usually not more than 4 ft. The reach of the extended arms varies from 7 ft. to 8 ft., but it does not always happen that the tallest individuals have the longest arms. The female is much smaller. The duration of life is thought to be from twenty to twenty-five years. The speaker closed by insisting upon the very close resemblance to the human race which an intimate acquaintance with these intelligent creatures forces upon the attention.

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It is perfectly soluble, and thus does not choke or clog pipes or traps, or form concretions on metal or stone-work. It is almost completely inodorous, giving off in use only a very slight and refreshing odour.

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Yours truly,

T. H. BARTLETT, F.R.C.S.,

Surgeon to the General Hospital, Birmingham.

Newhall Street, Birmingham.

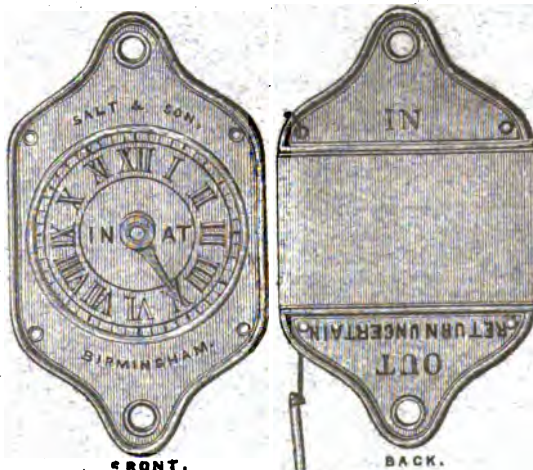
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This Case, which is neatly engraved, with shield for Crest or Monogram, contains a thoroughly well-made Syringe, graduated on the piston rod, with stop screw to regulate amount of fluid injected, 2 bottles for Morphia, etc., capped and stoppered. The case closes securely with a snap, similarly to a lancet case, and may safely and conveniently be carried in the pocket, being only one-third larger than the engraving. Its external appearance is more elegant than any case of the kind hitherto made.

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No. 53. New Series.]

[November 15, 1879.]

The London Medical Record

A REVIEW OF THE

*Progress of the Medical Sciences and of
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LONDON

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The London Medical Record.

WATSON, ORD, AND REMY, ON FETAL RELICS CONNECTED WITH THE MALE ORGANS OF GENERATION.

THE attention of anatomists and surgeons has recently been directed to this subject by the clinical researches of Dr. Ord and M. Rémy, and by an important monograph on "The Homology of the Sexual Organs, illustrated by Comparative Anatomy and Pathology", communicated to the Medical Society of Manchester, last February, by Professor M. Watson (*Journal of Anatomy and Physiology*, vol. xiv, p. 50, October 1879). It has long been recognised that in the human female the Müllerian ducts become the Fallopian tubes, their coalescent portion developing not only into the uterus, but also into the vagina. Each Wolffian duct disappears, with the exception of a small straight portion running along the top of the parovarium, and generally easy of recognition if the anatomist hold up the broad ligament to the light, stretching the Fallopian tube by pulling at each end and allowing the ovary to hang. But the remainder cannot normally be traced in women, though it remains as the canal of Gaertner in some of the mammalia, especially the ungulata and certain monkeys and cetacea. In the pig it is of large size, and it is well developed in the cow. In cases of abnormal or rather of arrested development among women, the foetal condition both of the Müllerian ducts and of the canals of the Wolffian bodies may be maintained, as is more or less the case in the lower animals, concerning which point Professor Watson quotes the aphorism of Serres: "Human organo-genesis is a transitory comparative anatomy, as, in its turn, comparative anatomy is a fixed and permanent state of the organo-genesis of man." Thus, from imperfect coalescence of the Müllerian ducts we may find two uteri and two vaginæ, absolutely separate as in the opossum, or divided by a septum as in the kangaroo; or the uterus alone may be double, as in a heavy-looking well-whiskered rodent, the viscacha or biscachia (*Lagostomus*), a trace of the vaginal septum remaining both in the rodent and in human monstrosities. A double uterus with complete absence of the vaginal septum, as in hares and rabbits, is a very rare malformation in our species. The distinct cornua, or solitary unilateral horn sometimes found in human uteri, represents the cornua of most of the mammalia between the monkeys and marsupials. In the "infantile uterus" of certain completely sterile women, described by Kussmaul and others, a slight indication of the cornua is always present, giving the womb the shape of the blade of a mediæval halberd.

It is also found that in very rare cases the canals of Gaertner persist in woman. Only two instances are known, and one is based on an accurate record of a dissection made in 1559. The second case is described by Fürst, in a German work published in 1868. The uterus had two cornua, and the abnormal canal existed on the right side only.

A most important question in the homology of the male and female organs is the fate of the

coalescent part of the Müllerian ducts. It must never be forgotten that this portion represents the vagina as well as the uterus. Now the vesicula prostatica in men is formed by the union of these ducts. Therefore it is the homologue not alone of the uterus but also of the vagina.

The great distinction and want of continuity between the uterus and vagina in woman makes the above theory look extremely fanciful. But once more comparative anatomy comes to our aid. In the mole, the pig, and at least one species of armadillo, as well as in the three-toed sloth, there is no os uteri, no indication of structural separation between the vagina and uterus. In *Hyæna crocuta* there is no true vagina; the part corresponding to the "vestibule" replaces it functionally. In *Elephas* the vagina also appears to be absent, but this point is not quite settled. Hence there are female animals with internal organs of the same type as the vesiculæ prostaticæ of their males. In these cases, the above-described condition is termed "absence of transverse severance of the uterus and vagina."

Let us once more turn to male animals. In the beaver, the ass, and the goat, the vesicula prostatica is strongly bifurcated, owing to permanence of the free part of the Müllerian ducts close to their points of coalescence. It is in Dr. Ord's and M. Rémy's cases that we see instances of monstrosity in man in this direction. But in both cases the duct of Müller existed on one side only, and it was long, reaching to the kidney. In M. Rémy's case, a boy, aged 6, it began among a mass of little cysts close to the suprarenal capsule, which cysts had every appearance of being a persistent Wolffian body. Yet a hydatid of Morgagni and an organ of Giralde's were found in connection with a well-formed testicle in this very subject, the said structures being believed to be remnants of the Wolffian body. How cautious the scientist must be, then, about homologies, when we see how a structure can prove an *alibi* in this way! But truth, we know, is more likely to arise out of error than out of confusion. The researches of Professor Watson, above all, indicate an orderly method of seeking for truth; with every practical argument for proof, he arranges matters so that a faulty link in his chain of evidence may be seen and replaced without the whole chain being suspected as in any way untrustworthy. In both M. Rémy's and Dr. Ord's cases, the abnormal ducts opened into the prostatic urethra in connection with the vesicula.

But as if nature, in her freaks, as it once used to be expressed, was determined to prove these theories in the most complete manner, we find that in some male animals the vesicula prostatica is actually transversely constricted, representing the dismemberment of uterus and vagina. This condition is very common in the goat, where the vesicula is also strongly bifurcated. It has been also seen in human beings possessing penes and testes, and otherwise evidently males. In one instance, the vagina was distinctly differentiated from the pseudo-uterus by the presence of a well-marked os uteri. Cases of apparent menstruation *per urethram* in man have been attributed to this condition, but the theory does not appear to have been supported by subsequent *post mortem* evidence.

Thus, some of the highest themes of morphology directly affect questions concerning the pathology and teratology of the generative organs. By such combinations of scientific research alone can complicated instances of hermaphroditism be understood. In a future number we will speak, in the same

manner, of what has recently been demonstrated with regard to the external genitalia.

ALBAN DORAN.

PFLEGER ON THE CEREBRAL PATHOLOGY OF EPILEPSY.

DR. LUDWIG PFLEGER* reports that, out of forty-three cases (seventeen males and twenty-six females) of epilepsy in which he has made *post mortem* examinations, he found the hippocampus major shrivelled and sclerosed in twenty-five instances (males 7, females 18), while in two others atrophy, without sclerosis, was observed. In the course of about three hundred other necropsies, chiefly of insane patients, he has also noted the following: Atrophy and sclerosis of both hippocampi in a woman, aged 49, who had died of paralytic dementia; atrophy of both hippocampi in a hysterical woman, aged 78, who had long been subject to convulsions, apparently not attended by loss of consciousness; adhesion of the anterior portion of the *cornu ammonis* to the ventricular wall above it, usually upon both sides, in the following eleven cases: a man, aged 38, who had one or two epileptoid attacks annually, and was said to have previously suffered from true epilepsy; two male general paralytics, aged 31 and 40, of which the younger was reported to have once been epileptic; a man who had first become epileptic at 22 years of age, whose fits were very frequent, though generally unaccompanied by loss of consciousness; seven cases of death from *marasmus senilis*, in two of which attacks of great excitement had been frequent.

Hemkes pointed out (see LONDON MEDICAL RECORD, March 1878) that the lesion of the hippocampus was only observed by him in patients who had been epileptic before the twelfth year of life. Pfleger believes this to be so in the great majority of instances, but draws attention to three of his own cases in which epilepsy had only commenced at or after twenty years of age.

Dividing his cases into two groups, the first consisting of those in which the fits were frequent and severe; the second, of those in which they were comparatively infrequent and slight; the author finds that the great majority of instances of lesion of the hippocampus occurs in the first group. Thus, among eight males with strong and frequent fits, six had sclerosis; while among nine in whom the disease was milder, only one showed slight atrophy and sclerosis of the hippocampus, though marked atrophy of one half of the brain was present in three cases. Of fifteen women who suffered from the severe form of the disease, eleven were found to have sclerosis; and of eleven belonging to the second group, four had sclerosis, and two atrophy without sclerosis.

Adding together the cases of Hemkes and Pfleger, it would appear that a lesion of one or both hippocampi may be observed in about one-half of the necropsies on insane epileptics. It appears from anatomical and experimental research, that the *cornu ammonis* has no connection with the motor functions; it cannot, therefore, be maintained that the morbid change in it is either the cause, seat, or result of the epilepsy. The author attributes the lesion to a disturbance of

nutrition dependent upon a change in the mode of circulation of the blood during and after the epileptic attack, owing to the peculiar distribution of the blood-vessels of the hippocampus. It will be seen that this is quite a different view from that adopted by Hemkes, who regards the appearances as due to "partial encephalitic processes with resulting atrophy".

CHAS. S. W. COBBOLD, M.D.

VERNEUIL ON TRAUMATISM AND PROPATHIES.

IN THE *Revue Mensuelle de Médecine et de Chirurgie* for May and July 1879, M. Verneuil considers, at some length, traumatism in relation to what he calls the "Propathies", meaning by the term, the previous constitutional condition of the patient. The syphilitic and rheumatic diatheses are the two principal ones to be feared in operational cases; for, since the introduction of antiseptics, M. Verneuil is of opinion that both the diabetic and the alcoholic conditions have lost much of their gravity; a fact supposed to be due, in part, to the absence of traumatic fever. With regard to syphilis, it is thought an operation can reawaken and aggravate the constitutional disease, and always notably interferes with the repair of the wound, although the effects are not sufficiently violent to cause death; syphilitics, nevertheless, bear operations better than those with other diatheses. It is considered that a distinction should be made when the constitutional lesion has or has not spared the important viscera. In the first instance the attack is well supported, but there is a slight unfavourable reaction. When an important viscus, such as the liver, is implicated, then the disease, being aroused, seems to concentrate itself and gain fresh strength; lapse of time and the natural progress of the disease, however, usually procure an amendment. The author believes that it could be shown, if only a sufficient number of observations were placed at our disposal, that, in spite of the unequal gravity of cancer, a nearly corresponding number of recurrences take place in scrofulous and syphilitic patients as in cancerous ones; the propathic manifestation of the secondary tumour in such instances being a tubercle or a gumma of the brain. The pathological conditions, being always situated at a distance from the wound, can have no direct connection with the same, except by the vascular and nervous systems; yet it is not easy readily to recognise which route is the affecting one, whether the constitutional symptoms arise from an infarct, an embolon, or a pathological reflex action.

In rheumatism the traumatism is supposed to act upon the vascular system, the effect being seen in an increased proportion of urates in the urine. For the purposes of prognosis, the urinary deposits are therefore considered of much value. Upon this point, M. Verneuil writes: "I always have the urine of my patients examined quantitatively and qualitatively for two or three days preceding an operation. Ordinarily, under the influence of repose, diet, and a period of preparation, to which, like the old surgeons, I attach much importance, the urine, except in cases of albuminuria and glycosuria, is limpid and moderately rich in salts. But often in twenty-four hours following a surgical procedure, they present different interesting modifications. Sometimes there is very pronounced oliguria, with concentration of the liquid, the watery portion appearing diminished in quantity.

* Beobachtungen über Schrumpfung und Sclerose des Ammonshornes bei Epilepsia. Von Dr. Ludwig Pfleger. *Allg. Zeitschr. für Psychiatrie*, Bd. xxvii, Heft 2-3.

Often there are saline deposits, carbonates, phosphates, and urates. I have more particularly studied these last, and especially when they present that rose tint denoting a liver-affection. When the patient, who is not an alcoholic and does not suffer from hepatic disturbance, has his urine strongly charged with urates the day following an operation, it may be pretty surely affirmed that he is rheumatic, and on this basis may be calculated the probabilities of the traumatic process and the nature of the complications foreseen."

The notes of twelve cases are published, to illustrate practically the author's views with regard to the effects of operations on syphilitic and rheumatic individuals. T. F. CHAVASSE, M.D.

NOEL GUENEAU DE MUSSY ON PURULENT DIAPHRAGMATIC PLEURISY.

ACCORDING to the remark of Laënnec, if diaphragmatic pleurisy is one of the most common maladies, as the frequency of adhesions and false membranes observed in this region after death attests, it is one of those which are most frequently unrecognised. In a work published in 1853, Dr. Noel Gueneau de Mussy has indicated signs which he believes render the diagnosis easier and more precise. They are repeated, and completed by some new observations, published in the *Archives Générales de Médecine*, July 1879.

Besides the spontaneous pain and that which is evoked by manual pressure at the level of the base of the chest, there are disturbances of sensibility which appear to him to have a great value for diagnosis. The phrenic nerve undergoes a morbid irritation which throws light upon the seat of inflammation; it becomes the seat of hyperæsthesia, which may be determined at the level of the superficial expansion of the nerve in the epigastric region, and especially at a point which he has called the "diaphragmatic button", because when it is pressed the patient complains instantly of a keen sensitiveness, sometimes of an excessive, unbearable pain, accompanied by twinges which make him start and groan. This point is found at the intersection of two lines, of which one is parallel to the external border of the sternum, and the other, perpendicular to this, follows and prolongs the border of the ribs.

The author knows only one disease of inflammatory character in which, in a much lower degree it is true, this hyperæsthesia of the phrenic nerve is observed. That is pericarditis, and not only is it there less pronounced, but often the seat of it is a little different, and the maximum of the abnormal sensibility, in many patients affected with pericarditis, corresponds to the costo-xiphoid angle.

At the same time that the terminal extremity of the phrenic nerve manifests this trouble of sensation, an exaggerated sensibility is determined between the two lower attachments of the sternocleidomastoid muscle; the irritation is propagated in an ascending course along the trunk of the nerve; it is turned by a sort of reflex action upon the nerves which have a connection in origin with the phrenic, and provokes pains in the shoulder and in the subclavicular region.

A neuralgia and hyperæsthesia of the last intercostal nerves not unfrequently accompany the hyperæsthesia of the phrenic nerve. Another habitual symptom, though not absolutely constant in effusions upon the diaphragm, is the depression of

the last rib corresponding to the diseased side. Pressed down by the collection of liquid, the diaphragm draws in this rib; and when the patient is seated it may be seen that it is more oblique, and that it descends lower at its free extremity than that of the opposite side. Much more rarely the tenth rib appears pressed down a little in some patients, and, as a consequence of the sinking of the diaphragm, the liver usually projects beyond the ribs.

The immobility of the hypochondrium is not constant, and it has not the necessary relation with the purulent character of the effusion affirmed by some physicians. To this immobility is added, sometimes, a sort of retraction of the linea alba and of the umbilicus, which at each inspiration seems to draw them from the side opposite to the immobilised hypochondrium; further, when the region of the flank corresponding to the diseased pleura is held in the hand, immediately below the ribs, if the diaphragm be pressed down by an effusion, a resistance and fullness are felt which are not found in the other flank.

Dr. Gueneau De Mussy has found in two cases that the hollow [saddle-shape] of the flank tends to be effaced, and that this region, instead of offering a concavity, forms almost an upright plane between the iliac crest and the costal border, the distance of which is diminished.

Percussion gives a sound with a sharp tone, a little tympanitic, in a semicircular band which corresponds to the part of the lower lobe of the lung contiguous to the effusion. On auscultation, the vesicular sound at the level of the collection of liquid is, in general, less strong, less full, and sharper than in the rest of the lung; it is sometimes mixed with crepitant or mucous râles, which indicate a congestive state of the pulmonary tissue about the seat of effusion. The weakness of the respiratory sound, followed by prolonged expiration, although more pronounced at the base, may exist in the whole lung of the diseased side, and depend then upon the compression of the principal branches by an enlargement of the tracheo-bronchial glands which ordinarily accompanies diaphragmatic pleurisy.

All these signs lessen the obscurity which enshrouded this affection in the time of Laënnec, and Dr. Gueneau De Mussy states that he has had, many times in the course of thirty years, occasion to verify their exactness. He has frequently seen a pleurisy, which in its first stage he had recognised to be limited to the diaphragmatic region, generalise and become thoracic at the same time that the functional troubles diminished; in other cases, necropsy has given an indisputable confirmation to the diagnosis formed.

G. F.

KEYWORTH ON ANHYDROUS AIR AS A THERAPEUTIC AGENT.

MR. G. A. KEYWORTH (*Pharmaceutical Journal*, p. 233) writes: Some time since, my attention was drawn to the great pain and inconvenience caused by tension in various morbid conditions. It occurred to me that air artificially dried and heated, and so made an energetic absorbent of moisture, would give relief by causing shrinking of the parts. This I found to be the case. Frequent opportunities were presented of observing this effect upon a cancerous growth affecting the hand, with moist fetid surface. The jet was applied for an hour in the evening, and caused cessation of pain for some eight hours, ensuring a good night's rest. After the application, the

surface presented a dried, shrivelled appearance. The loss of pain and stiffness was well marked and repeatedly verified. Anhydrous air as a mechanical anodyne may therefore prove a useful addition to the therapeutic armoury. The medical practitioner may see fit to apply it to gouty and oedematous swellings, to inflamed surfaces, to indolent ulcers and intractable wounds with a view to promote healing by desiccation, and to various tumours and cancerous growths to relieve the pain and if possible check their increase. The apparatus I employed consisted of an eprouvette of glass, containing fragments of calcic chloride, through which large volumes of air were driven by means of a foot bellows of the Fletcher type. The exit end of the eprouvette was connected by India-rubber tubing with an iron tube three feet in length, with a diameter of half an inch, having a spirit-lamp burning beneath the centre, and a piece of India-rubbertubing attached to the extremity for the purpose of applying the current. In this manner a stream of dried air heated to 100 deg. Fahr. could be maintained. A plug of cotton wool inserted within the entrance tube to the eprouvette acts as a filter, when the jet is applied to unsound skin. The air might (if desirable) be impregnated with carbolic acid, or other volatile substance, by introducing a portion with the wool. Large volumes of air must be used and for a considerable time (sometimes several hours) in order to produce sensible effects. If the process should be found useful in medical practice, dispensing chemists will probably be called upon to supply the apparatus on hire. An economical form of it will be supplied by the usual dealers in pharmaceutical apparatus. If used in hospitals on a large scale, a small gas-engine or hydraulic motor could be adjusted in order to drive large bellows or a fan-wheel, the eprouvette being of increased dimensions and the spirit-lamp replaced by a Bunsen flame. The addition of India-rubber gas-bags and pressure-boards, or other methods of compression, can be made if increased force to the jet is required. It may be remembered that warm dry air has long been observed to promote, and cold air to retard, the healing of wounds. Anhydrous air, though not a caustic in the usual sense, shares with such substances a certain power of disintegration by its affinity for moisture. The Michel process, introduced in Paris for removing tumours, consisted in the application of a paste of asbestos and sulphuric acid, the latter effecting destruction by absorbing moisture. Caustic potash, soda, and lime act in the same manner.

The effect of nitric acid is due partly to this and to its power of oxidation. Anhydrous air is, however, free from the dangers and objections which attach to the use of these energetic chemical agents.

H. C.

WURTZ AND BOUCHUT ON A NEW VEGETABLE PEPSINE.

THE analyses of Vauquelin and the observations of Cossigny, Bajou, Endlicher, Peckolt, Roy, and Moncorvo, concerning the digestive action of the papaya juice, which has recently been the subject of much correspondence in our pages, have induced Dr. Wurtz, the accomplished Dean of the Faculty of Paris and celebrated chemist, together with Dr. Bouchut, to undertake investigations on this product, and to submit it to experiments which have been carried out by Dr. Bouchut in the Hospital for Sick Children in Paris for the last two years, and have been recently

completed from a chemical point of view in the laboratory of the Faculty of Medicine (*Bulletin de l'Académie de Médecine*, Oct. 1879.) The juice, which flows from incisions made in the tree, is neutral and milky. It immediately coagulates and separates into two parts, one a sort of insoluble or slightly soluble pulp, and the other a colourless and limpid serum. The pure juice which was sent to the experimenters did not reach them without undergoing change, which manifested itself by a putrid odour. A butyric ferment was discovered in it. In order to protect the juice from this change, it was subsequently sent mixed with sugarea water or with glycerine, and aromatised with some drops of essence of mint. In this state it appeared under the form of a thick milky liquid, without any odour indicating fermentation. When placed in contact with raw meat, fibrine, white of egg, gluten, or it attacked them and softened them at the end of some moments, and ended by dissolving them after a digestion of some hours at a temperature of 40 deg. Cent. (104 deg. Fahr.) Milk was coagulated first, and the caseine precipitated afterwards dissolved; false membranes of croup removed by tracheotomy, intestinal worms, such as ascarides and tapeworms, were attacked and digested in some hours. There is no doubt that this juice contains a digestive ferment analogous to that secreted by carnivorous plants, *Nepenthes*, *Drosera*, and *Darlingtonia*, to which Darwin and Hooker have called attention. It is known that Messrs. Gorup-Besaenz and Will have obtained from this juice a sort of vegetable pepsine. The authors then enter into an explanation of a series of chemical experiments, from which it results that the nitrogenised matter precipitated by alcohol from the watery juice of the papaya possesses the property of dissolving great quantities of fibrine, and is distinguished from pepsine by the character of dissolving it not only in the presence of a small quantity of acid, but even in a neutral or slightly alkaline medium. This ferment the authors designate under the name of papayine. The pulp, washed with care, from which the watery liquid containing the papayine had been separated, was submitted to long washing with distilled water. This water was then evaporated at 40 deg. Cent. and reduced to a slight volume. It then gave with alcohol a precipitate which dissolved the fibrine under the same conditions as the papayine directly precipitated from the aqueous juice. This experiment appeared to indicate that the soluble ferment might arise by the action of the water on the pulp; which itself possesses very pronounced digestive properties, and which gives, after continuous washing, a slight acid reaction. This point, however, remains undetermined, for the pulp in question is difficult to wash, and may only yield the soluble ferment which it contains very slowly to water. It is besides very aqueous. Fifty-four grammes of this pulp only yielded on evaporation 2.5 grammes of a solid residue possessing a gummy appearance. Twenty grammes of this pulp well washed in water and containing nine decigrammes of dry substance were submitted to digestion at 40 deg. Cent. with fifty-six grammes of moist fibrine and two hundred cubic centimètres of water. The digestion was prolonged for forty-eight hours, care being taken to add a few drops of prussic acid to prevent putrefaction. The fibrine was entirely dissolved. The weight of insoluble residue was less than that of the pulp introduced. Ten grains of pulp well washed, leaving, after desiccation, forty-three centigrammes of solid matter, were digested at 40 deg. Cent. with seventeen

grammes of moist fibrine, and fifty cubic centimètres of water, with the addition of a drop of hydrocyanic acid. The whole was dissolved at the end of twenty hours, except a residue weighing three grammes in the wet state, seventy-one centigrammes after desiccation. The filtered liquor did not give any precipitate with nitric acid. In these last experiments there was not only dissolution of the fibrine, but transformation into pepsine, that is to say complete digestion. These experiments must be regarded, therefore, as of very great interest, and the research is one which considerably enlarges our view of the formation of digestive ferments in the vegetable as well as in the animal kingdom.

ARLOING ON THE PHYSIOLOGICAL EFFECTS AND THERAPEUTIC VALUE OF FORMIATE OF SODA.

ACCORDING to a communication made by M. Arloing to a meeting of the Academy of Sciences, Sept. 8th (*Comptes Rendus*), the following may be noted as the effects of formiate of soda in reducing temperature, and therefore in producing effects applicable to the treatment of hyperpyretic conditions of disease.

—*Circulation*. If successive doses of a solution, containing one-fifth part of formiate of soda, be accumulated slowly in the veins of a dog or a horse, the following modifications of circulation are observed. After the first injections the heart slackens, the capillaries of the general and pulmonary circulation dilate, the arterial pressure diminishes. First, diastolic or constant thickness of the flow of the blood is augmented in the centrifugal vessels; when the dose introduced into the blood becomes a strong one, the heart is accelerated and its systole loses its energy. If the formiate is poured in a strong dose into the interior of the right ventricle, it produces slackening or arrest of the heart's action. This arrest may be definitive; otherwise the heart gradually recovers itself, the more quickly in proportion to the smallness of the quantity of formiate injected. After the restoration of the heart, the ordinary effects of strong doses continue.—*Respiration*. Feeble doses augment the number and the amplitude of respiratory movements. Medium doses prolong expiration, and determine sometimes a series of slight precipitate movements, separated the one from the other by a profound inspiration and prolonged expiration. Strong doses accelerate the respiratory movements, and diminish their amplitude in an increasing degree. A massive dose provokes at the moment of injection a short arrest of expiration; respiration reappears soon, and shows an enormous acceleration and gradually increasing amplitude; these phenomena occur in the course of twenty or thirty seconds, and are replaced by a slackening and diminution of the amplitude of movements of the thorax, and by a tendency to pause in expiration.—*Poisonous doses*. Formiate of soda is poisonous when the dose exceeds one gramme to the kilogramme of the living weight of the animal. Death is announced by small inspirations separated by shorter and shorter expiratory pauses; the chest stops in expiration. The heart, which survives respiration by about fifty seconds, presents before its extinction great slackening and great weakening of its systole.—*Calorification*. Formiate of soda lowers the animal temperature. Gradual poisoning may produce a cooling of 2.5 deg. Cent. in one hour. This cooling

has as its cause, first, the great dilatation of the superficial capillary vessels; second, the diminution of the amplitude of the respiratory movements; third, and above all, the modifications of the pulmonary changes, and the slackening of organic combustion. If the gases expired be analysed, there is noted during the action of the formiate of soda a diminution of carbonic acid and an augmentation of oxygen; that is to say, the slackening of the elimination of carbonic acid by the lung is accompanied by the slackening of the absorption of oxygen. If, therefore, an analysis of the gas of the arterial blood be made, a simultaneous diminution of the figures of the carbonic acid and of the oxygen is observed. Consequently, at the same time that the absorption of the combustion agent diminishes in the lung, the combustion of the hydrocarbons diminishes in the network of the tissues. The modifications produced in the elimination of urea are not yet stated. The effects thus described assign to formiate of soda a place amongst defervescent remedies. This compound is therefore pointed out by M. Arloing to the attention of physicians, who might employ it in a certain number of cases where the action of salicylate of soda is feared, for the formiate does not congest the kidneys like the salicylate, and does not modify the heat so profoundly as this latter substance.

BRUSH ON KUMYSS AND MILK-ALCOHOL.

DR. E. F. BRUSH, of Mount Vernon, has made some interesting observations on this subject (*American Hospital Gazette*, November 1879). He thinks milk may be divided into two distinct varieties, according as it is the product of cud-chewing and non-cud-chewing animals. This is a distinction to which he thinks sufficient attention has not been previously drawn. The former class—that of the cud-chewers, to which of course the milk of the cow belongs—contains a variety of caseine which coagulates into a hard mass under the action of the digestive ferment, or during the lactic ferment. This coagulation takes place in the natural process of digestion with the calf.

During the summer he had a calf which he tied in a stable out of reach of any food, and gave it nothing but fresh milk from its mother; half an hour after the ingesta of milk, he always found it chewing the cud. After diligent inquiry, he has been informed that the same takes place with the sheep and the goat, the other domestic ruminant animals. From these facts, he is disposed to explain the difficulty experienced by the human stomach in digesting the milk of ruminating animals.

The other variety of milk—that given by non-cud-chewing animals, to which the human, equine, and canine races belong—does not, under the action of rennet or acids, coagulate into the hard mass we find in cow's milk, but coagulates into small granular or flocculent masses, easily diffusible. This fact explains, he suggests, very simply the advantages of *kumyss* prepared from cow's milk over the milk itself, in the artificial feeding of children. In *kumyss*—if we may be allowed so to express it—practically regurgitated and chewed, *i.e.*, having been coagulated, it is resubdivided, and incapable of being coagulated under any acid or ferment.

There are other differences in the various kinds of milk which tend to modify the conditions under which it digests. For example, it is a well-authenticated fact, that the amount of caseine in milk is in

inverse proportion to the amount of sugar contained in it; the milk of the cud-chewers contains the smallest amount of sugar and the largest amount of caseine, while the milk of the non-cud-chewers contains, on the contrary, the largest amount of sugar and the smallest amount of caseine. Even in the case of cow's milk, in varying conditions of the animal's health, as the proportion of caseine diminishes, that of sugar increases.

Another fact, too, deserves notice. The less sugar a given variety of milk contains, the more rapidly does lactic fermentation take place and consequent putrefaction follow. Now, a milk containing a large amount of sugar will set up alcoholic fermentation under conditions the most favourable for lactic fermentation in a milk containing a small amount of sugar. The bearing of this observation is that putrefaction follows lactic fermentation, whereas alcoholic fermentation preludes, to a certain extent, any form of putrefaction. Here Dr. Brush finds another reason for the beneficial effect of *kumyss* in the artificial feeding of children, for in *kumyss* the sugar is all changed into alcohol and its associates. There is no doubt at this time that alcohol, when properly presented, is a hydro-carbonaceous food. He relates in this connection an experiment he performed on himself, and which proved to him that the alcohol contained in *kumyss*—say 3 per cent.—is all destroyed in the system. He subsisted for a number of days on *kumyss* exclusively, taking eight bottles a day. During the time he was thus subsisting, he saved all the urine, which he distilled and redistilled, and tested for alcohol. But although he used the best known and most delicate tests, he failed to discover the slightest trace of alcohol. After this, he took eight bottles of *kumyss* and distilled a few ounces, and drank the distillate; in four hours he discovered alcohol in the urine. This simple experiment is calculated to show that alcohol as contained in *kumyss* is destroyed in the system, but that the same alcohol, when it has undergone the process of distillation, is eliminated as alcohol.

MEDICINE.

RECENT PAPERS.

1. KAUFMANN.—On a Case of Multiple Primary Carcinoma. (*Virchow's Archiv*, Band 75, p. 317.)
2. LITTLE.—On an Undescribed Lesion as a Cause of Epistaxis. (*Hosp. Gaz.*, March 8, 1879)
3. SCHMIDT-KIMPLER.—On Darkened Rooms as a Cause of Delirium. (*Archiv für Psychiatrie*, ix, p. 223.)
4. NOEL GUENEAU DE MUSSY.—On Hemiglossitis. (*Archives de Médecine et Revue Médicale*, October 3, 1879.)
5. FRAGSTEIN.—On the Etiology of Sensitive Neurosis in the Region of the Median Nerve. (*Berl. Klin. Woch.*, 1879, No. 13.)
6. BENNET.—On Plugging the Cervix in Metrorrhagia. (*British Medical Journal*, July 1879, p. 123.)
7. MEHTA.—On Treatment of Cholera by Morphia Hypodermica. (*Lancet*, August 1879, p. 296.)
8. HOUGHTON.—On Bismuth Injections in Chronic and Subacute Dysentery. (*Lancet*, October 1879, p. 519.)
9. PORTER.—On the Etiology of Typhoid. (*Medical Times and Gazette*, October 1879, p. 408.)
10. MORGAN.—On the Application of Electricity directly to the Nerves and Muscles by Means of Acupuncture. (*Lancet*, September 1879, p. 454.)
11. BUCK.—On Hydatid Cyst in the Wall of the Left Ventricle of the Heart. (*Lancet*, October 1879, p. 345.)
12. HARRISON.—On the Treatment of Prostatic Enlargement. (*Lancet*, September 1879, p. 463.)
13. SAWYER.—On the Diagnosis of Intestinal Stricture. (*British Medical Journal*, September 1879, p. 493.)
14. LÉREBOULLET.—On a Case of Interrupted Respiration, due to the Movements of the Heart. (*L'Union Médicale*, October 2.)
15. BERGER.—On the Etiology of Tabes Dorsalis. (*Bras. Aerol. Zeitschr.*, Nos. 7 and 8, 1879.)

1. Kaufmann on a Case of Multiple Primary Carcinoma.—The author publishes several cases of multiple primary carcinoma. The first is that of a woman, aged 81, who had a carcinoma on the back of the hand. She was in the habit of rubbing her eyes with the ulcerating surface, and the affection spread to the eyelid. In two other cases a carcinoma had formed on a part of the body which is particularly favourable to the formation of primary cancer. The carcinoma was removed by an operation. Some time afterwards a new primary cancer formed in the same individual on a different part of the body. The first of these two cases was that of a stonemason, aged 46, who was suffering from a cancrroid of the upper eyelid. The growth was removed on January 24, 1878. The patient presented himself again in July with carcinoma of the rectum. He died, and the microscopical examination verified the diagnosis. In the second case, a woman, aged 51, suffered from an ulcerated carcinoma of the left mamma, which had developed slowly, together with a carcinomatous degeneration of the axillary glands. An ovarian carcinoma was diagnosed at the same time, but the diagnosis could not be verified clinically. The author then proceeds to quote six cases that have been mentioned by Winiwarter, and comes to the conclusion that, although in the majority of cases the carcinoma manifests itself as a solitary tumour, which gradually affects the whole organism, yet there are other cases where a primary carcinoma develops as usual, is either operated upon or left to itself, and is followed within a certain length of time by a second carcinoma, which takes its course after the typical way of primary tumours.

2. Little on an Undescribed Lesion as a Cause of Epistaxis.—Dr. James L. Little recommends an inspection of the anterior nares, and especially the septum, before plugging either the anterior or posterior nares to arrest the hæmorrhage of epistaxis. He cites four cases in illustration. In the first he was called at midnight to see a gentleman whose anterior nares had been plugged, but the hæmorrhage recurred as soon as the plug was removed. Inspection showed an erosion on the septum, about a half inch above the columna, from which all the hæmorrhage came. Touched with muriated tincture of iron, on the point of a camel's hair brush, the hæmorrhage was at once arrested, and did not recur. In the second case, the patient had several severe attacks of epistaxis before applying for treatment. Upon examination a small ulcer was found on the septum, about half an inch from the edge of the nostril, near the anterior margin of the cartilage. Upon touching the spot with stick nitrate of silver, the hæmorrhage ceased. A second application was required the following day. No recurrence after this. In the third case he found the patient just recovering from syncope following epistaxis. The anterior nares were plugged, and on the following day he learned that hæmorrhage had followed the picking of a pimple on the septum. On removing the plug, a spurt of arterial blood followed. A piece of styptic

cotton was applied to the spot, and the patient instructed not to disturb it. There was no recurrence, and the ulcer healed in about a week. In the fourth case, also, the hæmorrhage followed picking of the nostril, and continued, with slight remissions, from ten o'clock in the morning until four in the afternoon. A small erosion was found on the septum. Nitrate of silver applied to the bleeding spot arrested the hæmorrhage. There was no recurrence.

3. *Schmidt-Rimpler on Darkened Rooms as a Cause of Delirium.*—Delirium of this kind had hitherto been observed only after operations for cataract. The author reports two similar cases where delirium occurred, though no previous operation had taken place, and attributes them to the deprivation of light. He tries to explain this from the physiological experiments of Langendorff. Frogs that have had their eyes put out croak when the skin of their back is stroked, just as they do after decapitation. This proves that visual perception has an inhibitory effect on other processes. If the action be the same in animals as in human beings, it is highly probable that internal irritative processes become so intense when the light is cut off, that they develop into delirium and hallucination. This effect only takes place when there is a certain tendency to it, which in the majority of cases may be found in a certain stage of senile imbecility.

4. *Noel Gueneau de Mussy on Hemiglossitis.*—Dr. Noel Gueneau de Mussy has recently published two interesting cases of hemiglossitis. The first case relates to a man, 80 years of age, suffering from eczema, and convalescent from a slight pharyngolaryngitis, who, after several days of cephalalgia of the left side of the head, was attacked with fever, accompanied by pain and swelling of the tongue. The swelling increased rapidly, being principally confined to the left half, and there was a large congested gland under the left maxillary angle. The tongue quadrupled in size, and respiration was consequently much impeded. Under the influence of a sedative, and of a mouth-wash of chlorate of soda, this gland resolved rapidly. On the tenth day it was in a very advanced state, confined to the left side of the tongue, with lancinating pains leading to a small oval projection, excessively sensitive to the touch, and coinciding with similar pains on the corresponding side of the head. Borax was then substituted for chlorate of soda. The second case, relating to a subject 25 years of age, is similar to the preceding one. The commencement of the disease succeeded, as in the first patient, to a pharyngolaryngitis. The swelling was almost exclusively confined to the left side, where a dull pain was felt, without shooting pains, and coinciding with a similar pain under the left ear, and on the left side of the head, which had supervened in the course of the glossitis. *Herpes labialis* came on, and when the tongue had somewhat diminished in size, an oval-shaped erosion, a small pink spot, could be seen on it, with a group of purplish granulations towards the frænum. There was also in the case of this patient a glandular swelling under the angle of the lower maxillary. Dr. Gueneau de Mussy reminds us that Graves "has made this singular remark, confirmed by M. Dechambre, that in all known cases of hemiglossitis the affection is situated on the left side". M. Dechambre, however, in his article "Langue" in the *Dictionnaire Encyclopédique*, has not written "in all known cases", but only "nearly always". The writer refers the pathogenesis of this affection to "an irritable state of the nerves of the tongue

(lingual nerve and chorda tympani), having brought on the trophic lesion of the organ". In fact, certain symptomatic peculiarities tend to give weight to this explanation. It may, however, be noted that the pains were only lancinating, and only preceded the hemiglossitis in one of the patients; that, on the contrary, the attack was in both cases preceded by pharyngo-glossitis, and the inflammation of the pharynx has been considered by many writers as frequently being the starting point of the glossitis. However that may be, the two fresh facts noted by Dr. Gueneau de Mussy form a valuable contribution to the history of parenchymatous hemiglossitis.

5. *Fragstein on the Etiology of Sensitive Neuritis in the Region of the Median Nerve.*—The following case is published by Herr Fragstein. A gentleman who had always enjoyed good health formication in the thumb, and in the fore and middle fingers, of the right hand. A similar slight sensibleness began to complain of a sensation of numbness and tingling existed in the radial side, both of the fourth finger and the volar surface of the hand, and extended along the wrist to the muscles of the thenar. There were no motor or trophic disturbances, either in the muscles or in the skin, hair, and nails. The spot where the median nerve divides into the different digital branches was sensitive to pressure. A very disagreeable sensation always followed when the patient came into contact with cold objects. No painful spots could be found in the whole course of the nerve in the arm. The patient, being a dentist by profession, had been obliged to press frequently with the palms of his hands against the conical handles of his instruments. He rapidly improved by treatment with the constant current.

6. *Bennet on Plugging the Cervix in Menorrhagia.*—Dr. Henry Bennet brings forward this plan of treating uterine hæmorrhage, due to whatever cause. A kite-tail tampon, formed by cotton-wool and thread, is pushed firmly and deeply into the cervix, with the result of stopping hæmorrhage as effectually as a cork stops the contents of a bottle running out. [In *L'Union Médicale*, No. 25, 1850, M. Trousseau speaks highly of this plan, which had been long employed by M. Bretonneau of Tours, as both easy of application and withdrawal.—*Rep.*]

7. *Mehta on Treatment of Cholera by Morphia Hypodermics.*—Several cases are referred to in which this mode of treatment yielded the happiest results, and the author urges its further trial in this most formidable disease. [In the *Medical Times and Gazette*, December 1862, p. 644, Mr. Isaac Ashe reported two cases in the practice of Dr. Ricketts of Birkenhead, which were speedily cured by a single injection of liquor morphiæ. Subsequently to this paper, many observers followed with great success the same mode of treatment. Those interested in the subject are referred to the *Medical Digest*, Section 927, 3.—*Rep.*]

8. *Houghton on Bismuth Injections in Chronic and Subacute Dysentery.*—Half a drachm of bismuth rubbed down with mucilage, and injected once, twice, or thrice a day, has proved in Dr. E. P. Houghton's practice most valuable. [Trousseau, in 1834, strongly recommended the same remedy, both for adults and for children: vide *Lancet*, January 1855, p. 73; *Medical Digest*, Section, 909, 1.—*Rep.*]

9. *Porter on the Etiology of Typhoid.*—For some time Mr. Porter has strongly believed in the spontaneous origin of typhoid fever, and disbelieves equally in the impure water and impure milk theories. For

fifteen years Mr. Porter and his family drank sewer water with signal benefit. The reason why milk often causes typhoid is, in Mr. Porter's opinion, due to the fact that the curd lies undigested in the bowels, and by its decomposition "forms noxious gases, that saturate the intestinal secretions and irritate the intestines. This produces diarrhoea, and small patches of abrasions, which are, I venture to suggest, the points of absorption into the system of that poison from which typhoid fever arises." Mr. Porter describes three ways in which typhoid may arise; first, by spontaneous generation, as above explained; secondly, by infection; thirdly, by respiration of decomposing sewage vapours. Mr. Porter believes that typhoid would be unknown if all persons would attend to the great main sewer of the body, keeping it well flushed, and never overloading it with superfluous food. [Several suggestive papers upon this subject are noted in Sections 1,492, 2, and 1,493, 1, of the *Medical Digest*; and among other papers published since the issue of this work may be noticed one by Dr. Collie in the *British Medical Journal*, November 1878, p. 795.—*Rep.*]

10. *Morgan on the Application of Electricity directly to the Nerves and Muscles by means of Acupuncture.*—Dr. J. Morgan has given an exhaustive report of the use of this means of treating local paralysis, together with several cases illustrative of the good results that follow its persevering use. In one case, during thirteen months the acupuncture needles were inserted five or six hundred times, twenty to thirty cells of Leclanché's battery being connected with knobs attached to the needles. This was a case of spinal meningitis, induced by cold. In the early part of June 1878, the man, aged twenty-five years, after persevering treatment, during seven months, with faradism, galvanism, frictions, and general medication, could not stand, the motion and sensation of the lower extremities being *nil*. Gradually, after two months' use of electric acupuncture, the use of the limbs was restored, and he could, at the end of thirteen months, walk without the aid of crutches. Still, much remains to be done to dismiss the case as cured; but, as the muscles now respond to the induced and continuous currents, electric acupuncture is discontinued. The second case, reported at page 499, was one of myelitis, also induced by exposure to cold, in a labourer aged twenty-five. He was admitted into the Manchester Infirmary, a month after the exposure, with complete paraplegia. Three months' treatment by all ordinary modes only showed increasing severity of the symptoms, when electric acupuncture was employed. The amelioration that followed, ten to fourteen needles being inserted twice, sometimes three times, a week, has been great, but the case is one wherein the prognosis is necessarily unfavourable. [In the *British and Foreign Medico-Chirurgical Review*, July 1848, p. 232, may be found a review of Bellini's works on simple acupuncture, together with a case of paraplegia thus treated, when twenty to thirty needles were inserted, and left for three to fourteen hours daily in the muscles, perfect relief and cure following. The pamphlets by Dr. Bellini on the varied uses of acupuncture are well worthy of perusal. The numerous diseases in which this treatment has been used and found valuable may be seen by a reference to the *Medical Digest*, Section 166, 4, so that it may be questioned whether in Dr. Morgan's cases there was any advantage in the addition of electricity to the acupuncture.—*Rep.*]

11. *Buck on Hydatid Cyst in the Wall of the Left Ventricle of the Heart.*—A young man, aged eighteen

years, was admitted into hospital with a history of mania of seven days' duration. The following day he seemed progressing well, when suddenly he fell down foaming at the mouth, and died before Mr. Buck could reach him. On *post mortem* examination a large hydatid cyst, situated in the wall, and near the apex of the left ventricle, was discovered, its contents having discharged themselves into the cavity of the ventricle. [Several similar cases are noted in the *Medical Digest*, section 785, 2.—*Rep.*]

12. *Harrison on the Treatment of Prostatic Enlargement.*—The sum of all treatment is comprehended in promoting the muscularity of the bladder, and preventing it from becoming atrophied or paralysed, either by accident or by improper usage. The great point to aim at is to secure healthy urine, and this is attained by tying in an elastic catheter, and allowing the urine to pass away as it is secreted, until it becomes healthy, and then draw it off at regular and gradually prolonged intervals. Secale, internally, Mr. Reginald Harrison finds of great value.

13. *Sawyer on the Diagnosis of Intestinal Stricture.*—Dr. Sawyer, having failed to notice, in the many interesting papers upon intestinal obstruction that had recently been published in the journals, an important point in diagnosis, thinks it well to draw attention to the subject. It is this: "The presence of a tight stricture of the intestine, so low down as the junction of the sigmoid flexure and the rectum, is compatible with the occasional passage of faecal masses of normal size and shape." Dr. Sawyer believes that solid faeces may be slowly driven through the narrowed gut, and subsequently become moulded into a faecal mass of normal circumference in the portion of the bowel below the stricture, if a sufficient space remain above the anus for the evacuation to become moulded into a normal shape.

RICHARD NEALE, M.D.

14. *Léreboullet on a Case of Interrupted Respiration, due to the Movements of the Heart.*—Two explanations have been commonly put forward to account for the occurrence of interrupted respiration: 1. That the bronchi in certain parts of the lung are narrowed, either by swelling of their mucous membrane or through compression by tuberculous deposit, and the access of air to these portions is therefore rendered more difficult, and their dilatation follows a little later than that of the healthy pulmonary tissue; 2. That it is a form of pleural friction, observed at the onset of pulmonary tuberculation, where the partial pleurisy of the apex interferes with the respiratory movements, or where the pleural friction adds a sound to that of respiration, which is confounded with it. Latterly, M. Potain has maintained that this form of respiration is an attenuated extracardiac bruit. The author, although recognising the justness of the two preceding explanations, gives an instance which appears to support M. Potain's view. The case was one of pulmonary tuberculation, in which there was heard an expiratory sibilant blowing sound all over the chest, following the cardiac rhythm. The patient presented the signs of tuberculous infiltration of the left apex, dulness, bronchial breathing, and some humid râles. Subsequently, additional signs of a congestive attack occurred on both sides, when it was noticed that the two last thirds of the expiratory murmur were replaced by a respiratory bruit of a sibilant character, harsh and less musical than bronchial sibilus. It appeared brusquely during expiration, and partook of the cardiac rhythm, so

that at each expiration one heard two or four, most frequently three, sibilant sounds, separated by a scarcely appreciable interval. It could be heard all over the front of the left chest, also in the lateral region, and over the heart. This peculiar sound disappeared if the patient sat up in bed; but on making the patient lie on his belly the same phenomena reappeared over the right base, and also all over the left lung behind. On listening over the larynx it was also found that the expiration was terminated by three or four râles, synchronous with the cardiac movements. There was no cardiac disease. He accounts for this sound by the fact that, during expiration, the thoracic walls being more contracted than during inspiration, the compression of the heart on the lung is greatest, and that thus the heart compresses a sufficient number of pulmonary cells to give rise to a current of air capable of generating in the large bronchi, and even in the trachea, an interrupted expiratory sound, which can be heard even on auscultating the larynx. J. BURNEY YEO, M.D.

15. *Berger on the Etiology of Tabes Dorsalis.*—Of 185 cases of typical tabes that were observed by Berger, 145 were males and 40 females. The majority of the patients were between 30 and 50 years old (83 per cent. of the whole number). Concerning the part that sexual excesses take in the etiology of the disease, he does not think that they go beyond perhaps increasing the predisposition for it, but this has not yet been satisfactorily proved. The principal cause of tabes is chill; whether bodily fatigue has the same effect, has not yet been proved. The author agrees with the French writers, who assume that tabes is frequently caused by syphilis. He himself has met with several cases where the affection broke out a short time (six months to two years) after the infection, without any other cause. In a comparatively large number he obtained good results, though not of a permanent character, temporarily by antisyphilitic treatment.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. WILSON.—On a Ready Mode of Testing Paper, etc., for Arsenic. (*Brit. Med. Jour.*, Sept. 1879, p. 482.)
2. JACOB.—On Ether as an Anæsthetic. (*Lancet*, Oct. 1879, p. 539.)
3. PRIDEAUX.—On the Action and Uses of Hyoscyamine. (*Ibid.*, Oct. 1879, p. 540.)
4. RINGER.—On the Relative Action of Duboisia and Atropia. (*Practitioner*, Oct. 1879, p. 247.)
5. BURNEY YEO.—On Coto Bark in the Diarrhoea of Phthisis. (*Ibid.*, Oct. 1879, p. 257.)
6. IMLACH.—On Automatic Electricity. (*Ibid.*, Oct. 1879, p. 259.)
7. STUART.—On Milk of Sulphur as a Topical Application in Diarrhoea. (*Ibid.*, Oct. 1879, p. 272.)
8. FRASER.—On the Value of Pepsine Wine in Treating Vomiting during Pregnancy. (*Brit. Med. Jour.*, Sept. 1879, p. 450.)
9. HARDMAN.—On the Treatment of Cholera by the Hypodermic Injection of Morphia. (*Lancet*, Sept. 1879, p. 486.)
10. MAC CORMAC.—On the Preventive Treatment of Asiatic Cholera. (*Med. Times and Gazette*, Aug. 1879, p. 238.)

11. NICHOLSON.—On Agrimonia in Tænia and Scorbutica. (*Ibid.*, Sept. 1879, p. 367.)
12. YOUNG.—On the Value of Glycerine in Hemorrhoids.
13. VULPIAN.—On Pepsines.
14. MATLACK.—On Asparagin. (*American Med. and Surg. Reporter*.)
15. BOLDO.—(*New Remedies*.)
16. IRON-PEPTON. (*Pharmaceutical Journal*.)
17. CANTANI, DE DOMINICIS, and others on Enteroclysm as a Therapeutic Method. (*Revue des Sciences Médicales*, October 1879, p. 520.)
18. WEIR MITCHELL.—On Trigeminal Neuralgia of Long-standing Cured by Aconitia. (*American Archives of Medicine*, July 19, 1879.)
19. THEOBALD.—On Atropia in Acute Inflammation of the Middle Ear. (*American Journal of Otolgy*, July 1879.)
20. CUTTER.—On Salicylic Acid in Scarlatinal Otorrhoea. (*Maryland Med. Journal*, July 1879.)
21. DABNEY.—On the Topical Uses of Ergot. (*American Journal of Medical Science*, July 1879.)
22. HENNING.—On Rhus Toxicodendron. (*Cincinnati Lancet*, p. 217.)
23. PIETRYCKI.—On Salicylate of Soda for Urticaria. (*Præglad Lekarski, Allg. Med. Centr. Zeitung*, 1879.)
24. GRUNENWALD.—On Intra-uterine Therapeutics in the Puerperal State. (*Petersburg. Med. Wochenschrift*.)
25. ULLMANN.—On Benzoate of Soda. (*Allgemeine Med. Chirurg. Zeitung*, 1879.)
26. WATSON.—Endermic Use of Morphia in Thimble-Blistering. (*Virg. Monthly*, Richmond, 1879, Vol. vi.)
27. WINIWARTER.—On Massage in Chronic Affections of the Internal Organs.
28. WILLIAMS.—Advantages of Thymol over Carbolic Acid.
29. YVON.—A new Tasteless Saline Purgative. (*Paris Méd.*, Aug. 14, 1879.)
30. JARMERSTED.—On Scillaïn.
31. PODWYSSOTZKI.—On Emetin.
32. STADELMANN.—The Conversion of Quinic Acid into Hippuric Acid in the Animal Organism. (*Archiv für Exper. Pathol. und Pharm.*, Band x.)
33. STENBERG.—The Effect of Certain Impurities in Modifying the Physiological Action of Alcohol. (*Ibid.*)

1. *Wilson on a Ready Mode of Testing Paper, etc., for Arsenic.*—Dr. Rivers Wilson adopts the following plan. Place the suspected paper in a saturated solution of chlorate of potash till wetted through, dry, and burn under a bell-jar. Rinse the bell-jar with a little distilled water, and wash the ash with the same. To the solution thus obtained, apply Marsh's test for arsenic. In the *Lancet*, November 1862, p. 518, Mr. Thomas Orton suggests, as the simplest test he knows, the following. Dip the suspected material in a solution of ammonia, withdraw it, then drop in a piece of nitrate of silver, which will become coated with a delicate lemon-coloured arsenite of silver; or, pour some ammonia over a piece of the material, and, on dropping the caustic on the liquid, the same infallible character will be exhibited if arsenic be present.

2. *Jacob on Ether as an Anæsthetic.*—This paper gives the results of Mr. E. H. Jacob's observations in 1,200 cases in which he has administered ether during the last three years. Clover's method is the best, either with or without nitrous oxide gas. Although ether is proved to be the best of all known anæsthetics, we still have to seek one absolutely perfect.

3. *Prideaux on the Action and Uses of Hyoscyamine*.—As a summary of the results of the use of hyoscyamine in a considerable number of cases of insanity, it appears, according to Mr. Engeldue Prideaux: 1. That in most cases of mania it affords a most rapid and effectual means of exercising that form of restraint that has been termed "chemical restraint"; 2. That in cases of acute mania it will produce sleep and quietude when all other drugs have failed, and is one of the most rapid and reliable narcotics we possess; 3. That in the treatment of the epileptic states in epileptic mania it is most valuable; 4. In delusional insanity it often leads to a permanent cure; 5. That in chronic dementia the patient much improves after a continued course of small doses.

4. *Ringer on the Relative Action of Duboisia and Atropia*.—With the assistance of Mr. W. H. Neale, Dr. Sidney Ringer performed a series of experiments with these two drugs, and found that they produced identically the same results, but that duboisia was far more powerful than atropia. After hypodermic injections of 1-120 grain of duboisia there were great dryness of the mouth, giddiness, and other symptoms that lasted seven or eight hours. A similar dose of atropia caused only slight dryness of the mouth. Whilst, however, duboisia is far more powerful on man than atropia, the reverse is the case with respect to frogs, in which animals atropia paralyses far more powerfully the motor nerves, the heart, and respiration, than does duboisia.

5. *Burney Yeo on Coto Bark in the Diarrhoea of Phthisis*.—After two years' careful trial, Dr. Burney Yeo is impressed with the value of this agent in the grave and exhausting diarrhoea that often occurs in advanced stages of phthisis. The mode of administering the drug is as follows: five minims of fluid extract of coto (Ferris and Co., Bristol), ten minims of compound tincture of cardamoms, carefully mixed with half a drachm of gum mucilage, and adding water to half an ounce. Two or three doses usually arrest the severest form of phthisical diarrhoea.

6. *Imlach on Automatic Electricity*.—Dr. Francis Imlach, by the aid of diagrams, illustrates the method of treating paralytic patients by making them raise the dragging limb as they walk, and stand as firmly upon it as upon the other; or if, as in paraplegia, walking be impossible, making the limbs rhythmically flex and extend, by alternating electrification of the flexors and extensors; by this means an effort of the will is aroused that greatly aids the electrician in his treatment. Mr. Hawksley of Oxford Street, or Mr. Symes of Hardman Street, Liverpool, will show and explain the apparatus as described in this suggestive paper.

7. *Stuart on Milk of Sulphur as a Topical Application in Diphtheria*.—Mr. Stuart speaks highly of this agent, and since the appearance of the paper has had many opportunities of assuring himself of its specific value; indeed, so great is the curative power of the drug, that, in six cases, the average visits paid were 2.5. In every case thus treated, rapid recovery has ensued as soon as the sulphur was used.

8. *Fraser on the Value of Pepsine Wine in Treating Vomiting during Pregnancy*.—Dr. Fraser has found, like many others, this agent most valuable in many cases, and, therefore, brings it before the notice of the profession, believing it is not sufficiently appreciated. [In the *Bulletin Général de Thérapeutique*, February 15th, 1878, Dr. L. Gros reports

a very severe case that had lasted for two months, and had resisted every kind of treatment. Before having recourse to the induction of premature labour, 15 grains of pepsine were given, and from that hour food was taken, and all vomiting ceased. Further testimony to the efficacy of this valuable agent may be obtained by reference to the *Medical Digest*, section 860, 2.—*Rep.*]

9. *Hardman on the Treatment of Cholera by the Hypodermic Injection of Morphia*.—Mr. Hardman writes to support Dr. Mehta's estimate of the value of this mode of treating cholera, as reported in a previous number of the *Lancet*. The conclusions arrived at are: 1. Choleraic diarrhoea can always be immediately arrested by morphia hypodermically administered; 2. If severe diarrhoea have persisted for two hours, in spite of opium and morphia by the mouth, the hypodermic use of morphia should be at once resorted to; 3. If cramp and collapse be present, the purging persisting, no time should be lost, but a full dose should at once be administered; 4. The treatment is absolutely free from danger, even if temporary suppression of the urine or albuminuria be present; 5. Where not curative, the treatment aids in diagnosis, foretelling with certainty the advent of dysenteric symptoms; 6. The sulphate of morphia is the best salt to use. [The idea of using morphia hypodermically in cholera appears to have originated with Dr. Ricketts, who, with Mr. Ashe in 1862, obtained very satisfactory results from this mode of treatment. Subsequently, several observers recorded the very favourable results they had obtained by the use of the same means. *Vide Medical Digest*, section 927, 3.—*Rep.*]

10. *Mac Cormac on the Preventive Treatment of Asiatic Cholera*.—In a letter to the Secretary of State for India, the value of drachm doses of dilute sulphuric acid, in peppermint water, once or twice daily, by all those who are in any way exposed to the attack of this dread disease, is strongly urged. Dr. Mac Cormac believes that, as a prophylactic, this remedy is calculated to rescue multitudes and avert great suffering, and he would fain press the matter home to all concerned.

11. *Nicholson on Agrimonia in Tania and Scorbutics*.—In eighty-six cases of tania, Dr. Brinsley Nicholson found that two ounces of the leaves of agrimonia eupatorium, eaten before breakfast, succeeded, in nearly every case, in dislodging the worm. Generally it was noted that the medicine produced diuresis, and this led Dr. Nicholson on one occasion, when his stock of antiscorbutic remedies was exhausted, to try a decoction of agrimonia, remembering that most antiscorbutic remedies were diuretic in their action. The results were most gratifying.

12. *Young on the Value of Glycerine in Hæmorrhoids*.—In an able paper on the treatment of external and internal hæmorrhoids, Dr. Young brings forward cases to confirm the value of glycerine in the treatment of internal hæmorrhoids. A point of treatment much neglected, careful washing of the protruded bowel after defæcation, is rightly much insisted upon. [Those who have been in China know with what advantage paper is discarded for water after defæcation.—*Rep.*] R. NEALE, M.D.

13. *Vulpian on Pepsines*.—In the French Academy of Medicine, M. Vulpian has called attention to the fact that pepsines delivered from different pharmacies vary much in their digestive power, some of them modifying albumen so slowly as to make it doubtful what good effect they can have when administered to dyspeptics. He also confirmed a con-

clusion arrived at some time ago by Dr. Symes (*Pharmaceutical Journal* [3], vol. iv), that the action of pepsine is retarded by the presence of alcohol. Wines and elixirs of pepsine are very much used in France; and, as M. Vulpian went on to say that some of the most renowned elixirs contained an extremely small quantity of pepsine, the rest intended to have been present having probably been precipitated by the alcohol during the manufacture of the preparations, the statement has caused some little sensation amongst the makers. M. Vulpian also described some experiments made by a pupil, M. Mourrut, which appeared to indicate that sufficient hydrochloric acid to correspond to the acidity of the gastric juice, added to a liquid containing diastase or pancreatine, retards the action of the diastase and stops that of the pancreatine, the former recovering its activity upon the neutralisation of the liquid, but the latter remaining inert. [The same observations have previously been made by Panum and Preyer, who reported that they found most pepsine powders inert after a while, and many pepsine wines nearly inert from the first; the most effective, permanent, and active of pepsine extracts, they found to be Liebreich's pepsin-essenz.]

14. *Matlack on Asparagin*.—Dr. Mary J. Matlack calls attention to the value of asparagin as a diuretic. She considers it to be one of the best remedies in dropsy dependent on disease of the heart, and to be especially valuable in chronic gout. The dose given is 1 grain three times a day, in conjunction with 12 grains of bromide of potassium.

15. *Boldo*.—Boldo acts as a stimulant to digestion, and exerts a marked influence upon the liver; this property residing in both the leaves and the young stems. It is said that the first knowledge of its virtues was obtained through its action on a flock of sheep suffering from a disease of the liver, which had been shut up in an enclosure in which the gaps had been recently repaired with boldo twigs. The sheep ate the twigs and leaves, and are said to have recovered their health very rapidly, after passing large quantities of the "flake-worm", or gourd-worm, which produce the so-called liver-disease.

16. *Iron-Peptone*.—The *Pharmaceutical Journal* mentions that, at the recent Hamburg Exposition, a very fine case of pharmaceutical preparations was displayed by Dr. F. Witte of Rostock. It contained a very large and handsome crystallisation of caffeine; but of not less interest was a series of preparations of pepsin and peptones. Amongst these was an "Iron-peptone", prepared from a fibrin peptone. It is alleged that iron administered in combination with peptone is presented to the stomach in a form in which it does not cause irritation to the mucous membrane, and is very easily assimilable. This preparation is in the form of powder, is said to be easily and perfectly soluble in water at a temperature of 28 deg. C. (82.4 Fahr.), and to contain 5 per cent. of iron oxide.

17. *Cantani, De Dominicis and Others, on Enteroclysm as a Therapeutic Method*.—Convinced that liquids introduced by the aid of enteroclysm could reach the cæcum, Dr. Cantani had vainly attempted to make them pass so far as the stomach by administering an emetic intended to bring on antiperistaltic contractions shortly after the employment of enteroclysm. Since these experiments were made, two cases (*Il Morgagni*, April 1879) have shown him the possibility of this phenomenon. The first case was that of a woman, 20 years of age, who suffered from a stercoral congestion of the cæcum, which

resisted all treatment, and was accompanied by fits of gastralgia and frequent vomitings, so as to given rise to the supposition that there was an ulcer of the stomach. Daily irrigations with two or three pints of olive-oil by means of enteroclysm were prescribed. The first irrigations brought with them some hard matter, but the third day, during the application of the enteroclysm, the patient said that she felt the oil rise up and reach the stomach. She was immediately seized with nausea, and violent efforts to vomit, and brought up half a pint of oil. The cæcal and epigastric pains ceased immediately as if by magic, and the patient recovered rapidly and completely. In the second case, a woman, aged 30, was also treated without result by purgatives for a congestion of the cæcum and ascending colon. After the introduction of a litre and a half of oil by means of enteroclysm, was seized with eructations and vomitings containing oil, after which the pains and the stercoral tumour disappeared entirely. These two cases seem to demonstrate on the one hand that liquids can pass beyond Bauhin's valve and reach the stomach by passing the pylorus; and, on the other, that the antiperistaltic movements, the existence of which is denied by some writers, do really exist. It results from these facts, that enteroclysm may be used with advantage in feeding patients, since the liquids introduced by this means may reach the small intestine. Alimentary substances, milk having previously undergone artificial digestion, may be injected into the intestine, and also drinks. This method of alimentation may render great service in trismus, in stenoses of the œsophagus, in affections of the stomach, etc. Cantani also believes that this means is indicated for neutralising in the intestine the abnormal fermentations produced by infective substances. In dysentery and cholera, disinfecting injections may be used with the greatest utility. Intestinal worms may also be removed in the same manner, when vermifuges are not well tolerated by the stomach. Enteroclysm has already produced prompt cures in many intestinal affections, in the first instance in intestinal occlusions, of which Dr. Perli publishes a new case, followed by cure. Dr. De Dominicis publishes a case of acute malignant dysentery promptly improved by injections of oil, then by a chloralised and carbolised solution. The tenesmus ceased almost immediately, and the patient soon became convalescent. Dr. Paolucci has also obtained rapid cure of ulcerative colitis of four or five months' standing, either primary, or consecutive on acute dysentery. Dr. Pera has seen a stercoral congestion of the cæcum with perityphlitis rapidly yield to injections of oil and soap and water, made by means of enteroclysm. In all these cases, ordinary medication had been previously employed without success, and the authors lay stress on the rapidity of the good effects obtained by means of this extremely simple and harmless plan. C. H.

18. *Weir Mitchell on Trigeminal Neuralgia of long standing cured by Aconitia*.—P. D., aged 38, was first seen in April 1879; had had severe neuralgia for eighteen years, affecting principally the distribution of the infra-orbital nerve of the left side, with paroxysms recurring nearly every minute. Eighteen months since, the nerve was divided at the point of emergence on the cheek, and half an inch removed. Pain was then absent for three or four months, but returned, and was more marked in the parotid and temporal regions, and along the teeth of the upper jaw. Duquesnel's preparation of aconitia was then

administered in doses of 1-140th grain three times daily, which was afterwards increased to 1-96th grain. After the second dose, the patient felt slight coldness over the body, with some tingling sensations. No relief ensuing, in two days four doses of 1-96th grain each were given; there was no physiological effect, but the pain was lessened, and the patient slept without an anodyne. Six days later, the dose was increased to 1-96th grain seven times a day. From this time, the pains gradually became less and finally disappeared. No physiological effects were noted, except an occasional slight chilliness.

19. *Theobald on Atropia in Acute Inflammation of the Middle Ear.*—Theobald highly recommends atropia in the acute inflammation of the middle ear due to colds, the usual cause of the familiar earache of childhood, as well as in the more severe forms of otitis media that follows the exanthemata. His method of employing it is to drop eight or ten drops of a solution (generally four grains to one ounce of distilled water, or, where the pain is very severe, double the quantity of atropia) into the ear, the patient being directed to keep the head in such a position that the drops shall remain in contact with the drumhead for ten or fifteen minutes.

20. *Cutter on Salicylic Acid in Scarlatinal Otorrhœa.*—Cutter advises that, after the ear has been thoroughly cleansed (by means of a pledget of cotton attached to a wooden toothpick), the meatus be filled, by the use of a laryngeal powder insufflator, with the salicylic acid in powder. Dr. Chisholm of Baltimore recommends the same practice. The results are said to be highly gratifying.

21. *Dabney on the Topical Uses of Ergot.*—Dabney has used ergot, locally applied, in a number of different affections, and with much benefit. He has used it with advantage in *conjunctivitis* in the chronic stage, especially when the blood-vessels were enlarged and tortuous. The treatment directed was the frequent cleansing of the eye with warm water, and the instillation, after each washing, of a few drops of the following solution: Ergot (solid extract), grs. x; glycerine, f ʒj; water to make f ʒi. M. Where there is intolerance of light, and the eyes are painful, this treatment should be avoided. Dabney has succeeded in checking growth of *pterygium* by the application of the same solution, three times a day. In *pharyngitis* of a chronic character, and in *hypertrophy of the tonsils*, he has obtained excellent results. In these cases the following formula is recommended: Ergotine, grs. xx; tincture of iodine, f ʒj; glycerine, to make f ʒj. M. To be applied twice a day, with a camel's hair pencil. It is said to be especially applicable in *cervical metritis*. In cold weather, suppositories, made as follows, are found of most service: Ergotine, grs. xx; extract of belladonna, grs. ij; cocoa butter, q. s. M. Make six suppositories, and insert one into the vagina nightly, after using the hot douche. In warm weather a solution is preferable: Ergotine (or Squibb's solid extract), ʒss; extract of belladonna, grs. vj; water and glycerine, of each, f ʒiv. A pledget of cotton is saturated with this solution, and inserted into the vagina at bedtime, after use of the douche. The cotton should be removed in the morning.

22. *Henning on Rhus Toxicodendron.*—Dr. John A. Henning, Red Key, Indiana, writes that there are three species of rhus, for a description and history of which the reader is referred to any dispensatories. He says the poison oak is a powerful poison, an irritant, and should be handled with great care. Dr. Henning has been using the fluid extract of the rhus toxicodendron during the past year, and, in many diseases, it is an admirable remedy to fill certain indications.

In nearly all cases of catarrh there is a dull, heavy, aching pain above both eyes, and the pain continues for a long time unless removed; the rhus in a week or ten days will remove that pain, and it has not failed in five or six cases that came under his care. When erysipelas is characterised by a burning pain, it will modify the symptom speedily. In bright redness or flush in any form of disease, in acute or chronic, it is indicated. It reduces the temperature in a feeble form; yet in combination with aconite, given as a sedative, it is very perceptibly noticed. But it seems to work better when combined with gelseminum, as then it acts through the nervous system. In some forms of inflammation it is an admirable remedy. If it is of a burning stinging character it removes the irritation, and thus lessens the inflammation. The same may be said when delirium is present. In spinal irritation, with enfeebled circulation, or spinal anæmia, it is an excellent remedy combined with nuxvomica, and it acts very promptly in this form of disease. In passive congestion of the brain, or in meningitis, it is indicated. Its general action, when taken in proper doses, is as a laxative, diaphoretic, diuretic, and particularly as a stimulant of the nervous system. Another common indication for this valuable remedy is in pneumonia, where we find bright flushing of the cheek, with pain in the forehead, and the peculiar red appearance of the papillæ at the tip of the tongue. It may be combined with sedatives, and will control those symptoms nicely. For all those symptoms enumerated Dr. Henning does not know of a single remedy so good as the rhus. Dr. Henning wishes particularly to call the attention of the profession to this remedy as a special nervous stimulant. In nervous prostration, he recommends this remedy with confidence. Dr. Henning usually gives the fluid extract of rhus toxicodendron v to xv drops to ʒiv of water, and then with such other remedies as may be indicated. Or it may be given alone at intervals with other remedies.

23. *Pietrzycki on Salicylate of Soda for Urticaria.*—Although Heinlein (*Aerztl. Intelligenzblatt*, 1878, and *Memorabilien*, Band xxiv, Heft 8, Sept. 30th, 1879) represented nettle-rash as caused by salicylate of soda, yet the author employed it successfully in three cases for this affection. 1. An unmarried lady, aged 18, suffered four days from urticaria. This affection recurred during two years three or four times in the course of the year. The eruption appeared on the whole body, and was most violent in the night, so that the patient looked as if she was swollen. Chilliness and a high degree of heat, as well as violent itching, took away her appetite and sleep. Quinine internally, and fomentations of vinegar and eau de Cologne, were recommended. The cold and heat ceased, but the eruption and itching recurred every evening. Fomentations with carbolic acid diminished the itching, but a prescription of salicylate of soda, in powders of 1.5 gramme three times daily, was successful, as, after taking two powders, the eruption and itching completely disappeared.—2. The same patient fell ill again three months later, and quinine was again prescribed, but even after 3 grammes had been taken, the affection persisted. Two powders, as in Case 1, however, completely cured the disease.—3. A woman, aged 21, somewhat chlorotic and with a bad digestion, suffered two days from urticaria, most severely in the night. As in this case, also, there was chilliness in

the evening, she took quinine, but with very little success. Salicylate of soda, three doses of 1.5 grammes daily, cured the disease entirely. The patient suffered from noises in the ear under the treatment. The author believes that these three cases justify the conclusion that salicylate of soda is a very effective remedy for urticaria, if the dose is sufficiently strong.

24. *Grünenwaldt on Intra-uterine Therapeutics in the Puerperal State.*—Adopting the view that the principles governing the treatment of wounds can alone give an effective prophylaxis against puerperal fever, Prof. Grünenwaldt recommends intra-uterine injection. The latter has not been generally employed, chiefly because the injections sometimes induce unfavourable results. The parametritis and peritonitis observed after the injections, however, are in the rarest cases the result of the direct penetration of the injected fluid into the abdominal cavity, and this only in morbid dilatation of the tubes. The injection rather penetrates through the open lymphatics of the puerperal uterus to the peritoneum, and induces, partly chemically, partly by the pressure of penetration, the before-mentioned inflammatory reaction. By injection, the thromboses in the terminations of the vessels become relaxed and move on as embola; then follows ague, or hæmorrhage takes place after the opening of the vascular lumina, which they had closed. If the injected fluid penetrate directly into the open vessels, unconsciousness, collapse, giddiness and fainting fits take place. The author does not agree with the view of Lazarewitsch, that the fundus uteri is very sensitive when brought into direct contact with an injection, but he seeks, in such cases, for the cause of these critical symptoms in the difficult discharge of the injected fluid. As the danger is very great if the air obtain access to the blood-vessels, the irrigator alone must be employed, and all syringes, etc., are to be rejected. The quantity of the fluid should amount to from one half to one litre; the double-barrelled probes are the best, but they must not consist of soft material. In introducing the probes, great care must be taken to avoid laceration, as the wounds may become foci of renewed infection. There are many cases in which one injection is sufficient, especially in those in which remains of eggs have been left behind, but in endometritis and diphtheritis, repeated and long-continued irrigation are necessary daily. In such cases, Schücking's permanent irrigation and the uterus-drainage are to be recommended (Langenbuch, Schede, Spiegelberg). Immediately after accouchement, an injection, washing the whole genital canal, should be resorted to, and this is especially necessary after difficult confinements in which operations have been performed. This irrigation, however, is to be repeated during the course of the puerperal fever only if an increase of temperature or abnormal condition of the lochia indicate illness. The employment of carbolic acid is best. The author cannot agree with Fritsch as to the danger of injecting liquor ferri sesquichloridi. [The Reporter, also, has never seen unfavourable results after numerous injections of liquor ferri sesquichloridi.] In removing ichoric remains of ova by the curette or sharp spoon, the danger of inoculation by simultaneous disinfecting irrigation is diminished. [This danger rests probably only on theory, as the septic fever usually disappears immediately after the before-mentioned removal.—Rep.] In subinvolution of the uterus, the application of medica-

ments by means of an aluminium probe, enveloped in wadding, is much to be recommended.

25. *Ullmann on Benzoate of Soda.*—At the meeting of the Znaim Association of Physicians in Mähr-Budwitz, Dr. Ullmann read a paper on new remedies, in which he states: "Benzoate of soda was recommended by Prof. Klebs for all infectious diseases created by vegetable parasites. Letzerich especially praised benzoate of soda as a remedy for diphtheria, but experiments with it in Vienna have not proved successful, etc." If we now investigate the series of experiments by Dr. Gnädinger, we find that the patients were taken to the Children's Hospital of Dr. Wiederhofer of Vienna from two to five days after they were affected. We further observe, that in the children who died, transmitted exudations, acute morbus Brightii, hæmorrhages of the peritoneum, pronounced increase of the lungs, bronchiectasis, bronchitis, atelectasis, florid rachitis, etc., were found; that, therefore, in some of them serious secondary phenomena, and, in others, either constitutional diseases or other affections existed, by which the capability of resisting the diphtheritic process had been considerably reduced. The majority of those who died were badly nourished and weak. It is obvious that, under such conditions, even the best and most careful treatment, as well as the best and safest method, cannot command great success. Benzoate of soda, although very effective, has, therefore, been tried under very unfavourable conditions. He maintains, however, that benzoate of soda has, of all remedies hitherto known, the most favourable therapeutic influence on the diphtheritic process, although it will probably never answer such expectations as those of Gnädinger. Many other practitioners have also employed this remedy for other infectious diseases, with favourable results. Dr. Ullmann concludes this article with a brief description of the following remarkable case. Amongst other children, a boy, 8 years old, was taken ill with diphtheria of the tonsils and violent general symptoms two months ago. On the second day of the treatment, the morbid process, nevertheless, passed into the larynx, the patient got the barking cough, and severe symptoms of stenosis of the larynx appeared. Besides 15 grammes of benzoate of soda to be taken internally every day, Ullmann also ordered this remedy to be inhaled in a solution of 10 per cent. by means of a steam-inhaling apparatus every two hours, after which treatment, abundant blood-coloured, doughlike, diphtheritic coats were ejected by coughing. After five days, the boy, who had been given up, was cured, but he did not regain his proper voice for a fortnight.

26. *Watson on the Endermic Use of Morphia by "Thimble Blistering."*—This method is thus described by Dr. J. C. Watson. An ordinary sewing thimble, a little loosely picked raw cotton, enough aqua ammoniæ (strong) to saturate the cotton without running out, are the preliminary agents required. Gently press the thimble over the selected spot until a sensation of heat has been felt for two or three minutes; wipe away any ammonia which may remain on the surface; now, with the finger, rub away the superficial skin; apply dry morphia by at first gently rubbing on, and then carefully adding a drop of water. A small quantity of morphia may be repeated at short intervals, until the patient feels its effects, or is satisfied with the relief obtained.

27. *Winiwarter on Massage in Chronic Affections of the Internal Organs.*—A man, aged 58, rather stout, had for the last five years been suffering from

violent neuralgic pains in his left leg, which radiated from the small of the back into the knee. The pains had come on after a febrile affection of the kidneys, and were especially severe at every attempt at locomotion; but ceased altogether when the patient remained in a recumbent position. There was a tumour in the region of the left hip, which was exceedingly tender to pressure. The author regarded it as an exudation which had remained after perinephritis. The left leg and hip, including the swelling, were massed daily, and warm fomentations applied during the night. The patient recovered in 64 days. The tumour had disappeared with the exception of a small nodule, which, however, was no longer painful. A woman, aged 79, was suffering from a multilocular ovarian cyst, which grew so rapidly that it had to be tapped repeatedly at very short intervals. Her legs were much swollen, and she was altogether in a very bad condition when massage was resorted to. The swelling in the legs soon decreased, and the urinary secretion increased considerably within a very short time. She was tapped once more, and the massage extended to the abdomen. The treatment was continued for nine months and a half, during which time she was not tapped once. The cure having been interrupted for a short time, the old symptoms reappeared, but vanished on its being taken up again. The patient's condition improved in a very marked way; she was again able to walk and to go about her work as usual.

28. *Williams on some of the Advantages of Thymol over Carbolic Acid.*—Dr. C. H. Williams states that thymol produces less secretion than carbolic acid. Hence the wound has more rest, as the bandages need not be changed so frequently, and the healing process can advance more rapidly. It has no poisonous effect, does not irritate the skin or edges of the wound, which requires no protection under it, does not cause anaesthesia or desquamation of the operator's hands, or irritation of the air passages; has an agreeable odour; and does not injure the instruments immersed in it. As thymol is soluble in about one part to one thousand of water, it can readily be employed as an antiseptic spray. Still it is better to add a little alcohol and glycerine.

29. *Yvon on a New Tasteless Saline Purgative.*—M. Yvon has recently published the following prescriptions for a purgative, which is characterised by the absence of the disagreeable bitter taste peculiar to sulphate of magnesia: *R.* Sulphate of magnesia, 20 grammes; water, 40 grammes; essence of peppermint, gtt. 2 or 3; or, sulphate of magnesia, 20 grammes; essence of peppermint, gtt. 3; to be dissolved in very little water.

30. *Jarmersted on Scillain.*—It was shown long ago, by Fagge and Stevenson, that the bulb of *Urginea Scilla* contains a principle closely resembling digitalin in its action on the frog's heart. Various attempts, all of them unsuccessful, have since been made to isolate this active constituent. Jarmersted gives the name of *Scillain* to an amorphous glucoside which he has succeeded in extracting from the bulb. Its effects are substantially the same as those produced by digitalin, and it seems in no way inferior in power to Schmiedeberg's digitoxin. When administered to the frog, it causes the characteristic irregularity of the heart's contractions, terminating in systolic arrest. The contractility of the voluntary muscles is subsequently impaired. In dogs and cats it excites vomiting and diarrhoea. Its effects on the

circulation of warm-blooded animals may be divided into two stages: during the first, the arterial pressure is raised and the frequency of the pulse diminished; during the second, there is a fall of pressure, with quickening of the pulse. Dyspnoea is a comparatively late symptom, and probably results from the disturbance of the circulation. Supposing scillain to be the only or the chief principle of the squill, it may be inferred, from the experimental results just given, that the diuretic properties of the drug will only be manifested (as with digitalis) when the lessened secretion of urine depends on some morbid state of the circulatory apparatus.

31. *Podwysotski on Emetin.*—By employing a new method of extraction, a detailed account of which may be found in the original paper, the author has succeeded in obtaining the alkaloid of ipecacuanha in a pure state. The best samples of the drug yielded from 0.75 to 1.00 per cent. It is a snow-white powder, speedily turned yellow by sunlight, readily soluble in cold ether, chloroform, and spirit, almost insoluble in cold water. Its melting-point is very low, 62-65° C. It has a strongly alkaline reaction, and is neutralised by acids, with which it forms salts. None of these, however, were obtained in a crystalline form, though the alkaloid itself, when a drop of a strong ethereal solution was permitted to evaporate gradually on a piece of filter paper, yielded white crusts, consisting of very fragile microscopic needles. All the salts of emetin, with the exception of the tannate, turn yellow on exposure to light. Treated with strong nitric acid, the alkaloid yields oxalic acid. It is precipitated by all the usual reagents for alkaloids, none of the precipitates exhibiting a crystalline structure. A series of experiments with this pure emetin were carried out both on cold-blooded and warm-blooded vertebrates. Small doses administered to frogs caused gradual but complete paralysis, first of voluntary, then of reflex movement. The irritability of the muscles and motor nerves was not at all impaired. The first effect on the frog's heart was to render the contractions irregular, the organ occasionally pausing in diastole. Ultimately, complete diastolic arrest occurred, from which the heart could not be roused either by mechanical stimuli or by the application of atropia. Administered to dogs and cats, emetin in large doses causes death by paralysing the heart; in smaller doses it excites vomiting, and occasionally purges. When death is delayed for 24 or 48 hours, signs of inflammation are always observed in the stomach and intestines, not unfrequently in the bronchial tubes and pulmonary tissue likewise (as described by Dyce Duckworth). Death is ushered in by extreme and progressive debility, with fall of blood-pressure and temperature. The inflammatory changes in the alimentary mucous membrane have often been ascribed to a local action of the alkaloid, on the supposition that this is eliminated from the gastro-intestinal surface. Podwysotski failed to discover any trace of it in the contents of the digestive tube after death, and is accordingly disposed to question the truth of the hypothesis. He believes that a close causal connection will hereafter be demonstrated between the effects of emetin on the nervous and vascular systems, and its specific action on the alimentary tract. The *post mortem* changes found in the digestive canal after death by emetin are extremely like those produced by colchicin, if the two are not altogether identical. Yet colchicin is not a heart-poison; and Rossbach could not dis-

cover that it had any influence upon the abdominal vessels.

32. *Stadelmann on the Conversion of Quinic Acid into Hippuric Acid in the Mammalian Organism.*—The occurrence of this process has been generally admitted since the publication of Lautemann's researches, whose accuracy was substantially confirmed by Meissner and Shepard. Stadelmann has gone over the ground again, employing the improved method of Bunge and Schmiedeberg for the quantitative determination of hippuric acid in organic mixtures. He finds that the transformation of quinic acid only takes place in herbivorous, not in carnivorous mammals. The normal occurrence of hippuric acid in the urine of rabbits may be entirely arrested by keeping them strictly on a milk diet, to which they seem very readily to accommodate themselves. When quinic acid is introduced into the stomach of animals in this condition, hippuric acid always makes its appearance in the urine; but the quantity of this acid is always very much smaller than would result from the complete transformation of all the quinic acid administered. Moreover, it does not shew itself in the urine till after a comparatively long interval of time. The author gives reasons for believing that most of the quinic acid is eliminated in an unaltered state of the kidneys; only a small part of it being gradually converted into hippuric acid in the lower part by the alimentary canal, probably as a result of putrefactive decomposition. It may be well to add that these reasons do not amount to absolute proof.

33. *Stenberg on the Effect of Certain Impurities in Modifying the Physiological Action of Alcohol.*—Dr. Stenberg of Stockholm contributes a long account of experiments designed to furnish an answer to the practically important question whether the various impurities present in many kinds of crude spirit, more particularly in that distilled from potatoes and from corn, and included under the generic name of "fousel oil," exert any appreciable influence in aggravating the primary intoxicant action of alcohol. The general belief is that they do, and they are often made responsible for the serious effects of drunkenness in those northern countries where impure distilled spirits are largely consumed by the population. Professor Stenberg's experiments on animals, however, lend no support to this belief. Even mixtures of pure brandy with amylic alcohol, containing no less than four per cent. of the latter, do not appear to cause a deeper or more prolonged intoxication than equal doses of pure brandy alone. The author is justly careful to guard against the inference which might be drawn from his conclusions by superficial readers, viz., that impure brandy is not specially dangerous to health. The habitual consumption of such brandy may not improbably modify the phenomena of chronic alcoholism for the worse; this is a point on which his researches cannot, from the nature of the case, throw any light. E. B. BAXTER, M.D.

SURGERY.

RECENT PAPERS.

1. BROWN.—On Arrest of Hæmorrhage following Esmarch's Bandage by Hot Water.

2. GREGORY.—De la Méthode Sanglante dans les Retraitements de l'Urethre. (Paris, 1879.)

3. OWEN.—On the Cause of Eversion of the Foot after Fracture of the Neck of the Femur. (*British Med. Journal*, November 1879, p. 687.)

4. TOMPSETT.—On Rupture of the Jejunum without Abdominal Contusion. (*British Med. Journal*, October 1879.)

5. PACKARD.—On Scarless Incisions of the Skin. (*Philadelphia Medical Times*, p. 305.)

6. PACKARD.—On Utilisation of the First Insensibility from Ether. (*Ibid.*, p. 306.)

7. PACKARD.—On the Dry Suture. (*Ibid.*, p. 307.)

8. SCHÜLLER, MAX.—On the Treatment of Fractures.

9. SMYTH.—On the Extirpation of a Floating Kidney. (*New Orleans Med. and Surg. Journal*, August 1879.)

10. ROBERT.—De quelques Modifications dans l'Opération du Bec-de-lièvre chez les Enfants à la Mamelle. Paris, 1879.

11. CHALOT.—Plaie Contuse du Parietal Droit; Trépanation; Contribution à l'Etude des Localisations Cérébrales. (*Gaz. Heb. des Sc. Méd. de Montpel.*, 1879-80, i, 17; 41.)

12. GRYNFELT.—Epithélioma du Maxillaire Supérieur; Résection de cet Os, avec Conservation du Plancher de l'Orbite. (*Gaz. Heb. des Sc. Méd. de Montpel.*, 1879-80, i, 52-54.)

13. HOWE, J. W.—Ligation of the Lingual Artery for Cancer of the Tongue; Laryngotomy; Recovery. (*New York Med. Journ.*, 1879, xxx, 155.)

1. *Brown on Arrest of Hæmorrhage following Esmarch's Bandage by Hot Water.*—Dr. Paul Brown reports a case of capillary hæmorrhage following the use of Esmarch's bandage for an amputation of the forearm, which bleeding was stopped instantaneously by syringing the parts with hot water (160° Fahr.) His attention was called to the hot-water treatment by Dr. Fordyce Barker's article on the treatment of uterine hæmorrhage in that way. The patient had three months previously had his carpus resected by Lister's operation on account of necrosis, and, after the operation, a very troublesome parenchymatous hæmorrhage occurred, which lasted for nearly two hours. It is of interest to know that the patient had a marked hæmorrhagic diathesis. That the hot water did no injury to the parts, and did not retard the cure, is demonstrated by the fact that in twelve days from the time of operation the parts had completely united and a cicatrix had formed. Dr. Brown thinks that the hæmorrhage following the use of Esmarch's bandage probably results from paralysis of the vaso-motor nerves, produced by the pressure of the tense India-rubber, and that the hot water acts as a powerful stimulant to these nerves, so that they produce a contraction of the arterioles, thus stopping the hæmorrhage. Water of a temperature less than 150 deg. Fahr. should never be used. Warm water is worse than useless.

2. *Gregory on Operation for Stricture of the Urethra.*—Dr. Gregory of Bordeaux has brought together, in a memoir on this subject, all the cases published by the surgeons of every country, to the number of 916 of internal urethrotomy, and 992 of external urethrotomy. Based on so large a number of observations, this study of operation for stricture of the urethra is of great interest, and presents the additional feature that every bibliographical reference has been verified by the author. M. Gregory has been fortunate enough to find two forgotten documents attributing the honour of the invention of perineal urethrotomy for urethral strictures to Italian surgery. Jerome Cardan of Milan, Durante Scacchi, Marcus Aurelius Severino, and Alphonse Ferri of Naples, nearly all described and put it in

practice about the same epoch (1540). For the edification of the learned, we reproduce the references to the documents in question. The first is, HIERONYMI CARDANI Opera, t. viii, p. 564, "Comm. sur l'Aphor. 43 d'Hippocrate", Lugduni, 1663; the second is, DURANTE SCACCHO, "Subsidium medicinæ in quo quantum docta manus præstat ad humanos morbos evellendos mirum in modum elucescit", Urbini, 1596, pp. 180-181, cap. viii, "De carunculâ in collo vesicæ genitâ". From the number of facts he has collected, M. Gregory draws the following conclusions. Internal urethrotomy, usually considered as a slight and efficacious operation, is, on the contrary, dangerous to the patient and useless as a means of benefit to him; whilst external urethrotomy, which has hitherto been considered as a serious operation, is, *vice versâ*, absolutely without danger, and of much more lasting advantage, seeing that there is less danger of relapse. External urethrotomy should, therefore, replace the internal operation in cases in which the latter is indicated, excepting, however, in cases of stricture of the free portion of the urethra, in which it might be resorted to, although it is even then capable of producing serious accidents. Slow and progressive dilatation, however, continues to be the general method of treating urethral strictures.

C. H.

3. *Owen on the Cause of Eversion of the Foot after Fracture of the Neck of the Femur.*—Mr. Edmund Owen combats the view that eversion is caused by the superior action of the external rotators, but asserts that, it is merely due to the fractured bone "tumbling" into the position of eversion; muscular action having nothing to do with it. At page 534 of the same JOURNAL, while Professor Spence claims to have repeatedly, during the last twenty-five years, given the same explanation, Mr. Davies-Colley of Guy's Hospital writes to prove that Astley Cooper's original view as to the part the external rotators play is the correct explanation, and that the weight of the limb is not the sole cause of the deformity.

4. *Tompsett on Rupture of the Jejunum without Abdominal Contusion.*—The case reported is one that occurred in Mr. Tompsett's practice, where a horse threw and then "walked on the side" of its rider, a strong healthy man. He rode two miles after the accident, and lived eighteen hours. The abdomen contained nearly two gallons of turbid fluid mixed with portions of half-digested food. A rent, of the size of a hazel-nut, was found in the jejunum, and the apex of the right kidney was much bruised, not ruptured. There was not the slightest trace of external bruising. [A very remarkable case of fatal injury to the jejunum is to be found in the LONDON MEDICAL RECORD, 1878, page 341. Here a man, ploughing, stepped into a hole and felt sudden severe pain in the bowels, but continued work for an hour. He died twenty-nine hours after the accident. At the *post mortem* examination, that took place twenty hours after death, two rents were found in the jejunum, with no trace of external wound or bruise.—*Rep.*] R. NEALE, M.D.

5. *Packard on Scarless Incisions of the Skin.*—In operating upon exposed parts, such as the face and hand, it is very desirable that it should be done so as to leave as little scar as possible. The procedure recommended is to hold the knife so as to divide the skin obliquely. Operations had been performed, when, after healing, the line of incision could not be found. Dr. Brinton had adopted the oblique incision in superficial operations and obtained marvellous results, even better than claimed by the

author. It was suggested that the absence of cicatrix was due to the fact that, in oblique incision, there was formed what might almost be called a subcutaneous wound, which favours healing with little scar. The surfaces brought together are large, and admit of perfect apposition. Again, the different layers in which the modular tissue is deposited after oblique incision will not be in the same perpendicular plane as they are in the vertical incision.

6. *Packard on Utilisation of the First Insensibility from Ether.*—For the short operations of minor surgery, and the reduction of dislocations or opening of abscesses, it is extremely useful and of every-day application. Such a patient wishes to be operated upon without pain or being incapacitated from attending to business during the remainder of the day. He lies down upon the sofa, and with one hand places the ether-inhaler, or a sponge wet with ether, over his face, mouth and nose, and holds the other arm and hand up in the air. This arm, after the ether has been breathed for a few minutes, will drop, and from thirty to fifty seconds of unconsciousness will be had in which to operate. The sponge being removed, the patient is ready to go about his business. It gives rise to no headache, nausea, or other unpleasant symptoms, and is particularly useful in children. The chief source of disappointment is in not recognising the right moment; for, if this be allowed to pass, unconsciousness will not again occur until full etherisation. The first insensibility is sure to come. When the arm moves, be ready, and as soon as it drops perform the operation; no pain will be felt. Dr. Brinton endorsed the above. He had opened a very painful carbuncle by free incision with the best results. After a few inhalations a sensation of coldness of the face is experienced, followed by vertigo and roaring noises in the ear; at this time the arm moves and drops, and the operation or incision is made absolutely without pain. He was now constantly employing it in dividing strictures, laying open sinuses and in operations which require but a moment to perform. Direct the patient, while holding up his hand, to tell when his head begins to go around. This will notify to the operator to be ready to operate immediately upon the hand falling.

7. *Packard on the Dry Suture* for closing large wounds, such as are made sometimes, for example, in removal of the breast. Two sheets of the most tenacious of all plaisters (Seabury and Johnson's porous plaster), two and a half inches wide, and of the length of the wound, are required. These perforated strips are placed one on each side of the wound and parallel with it; then with an eyed probe the surgeon can lace the two together over the wound, by carrying a silk ligature or a slender lacing across alternately from the second row of perforations in each sheet, so that the wound is drawn together without any tension upon its edges, but by taking a very wide hold on the surrounding skin. It is a very important thing to bring the wound together in this way, especially since it is well known that, as the edges swell in the course of a few days, there is a tendency to the cutting through of sutures applied in the ordinary method. The same expedient is useful in treating large chronic ulcers of the leg, where it is desired to reduce a wide granulating surface; and a number of other applications will suggest themselves.

8. *Schüller on the Treatment of Fractures.*—The peculiarities of the treatment of subcutaneous fractures of the bones of the extremities at Greifswald Hospital consist in nearly always fixing

the broken limb in a plaster bandage. The usual paste-boards are applied to the smaller bones, but to the large bones of the extremities only temporarily, if plaster cannot be had at once. Dr. Max Schüller maintains that no bandage can be fixed so well as the plaster bandage: but its frequent inspection, and even renewal, are necessary, especially when considerable dislocation and effusion of blood have taken place. In this hospital, plaster bandages are also applied to compound fractures, but in connection with salicylic jute bandages. Dr. Max Schüller prefers the frequent renewal of the bandages, as the wound can then be disinfected and the whole limb thoroughly washed; because he regards the antiseptic cleansing of the fracture as particularly important. Dr. Max Schüller also recommends adequate drainage, even if fresh openings for the drainage-tubes have to be made, in order that the secretions may flow freely from the wound to the surface. In extensive fractures, in which disinfection can only be effected by removing all splinters, Dr. Max Schüller places a drainage-tube through the fractured locality itself. The drainage-tubes, however, may be removed, or at least shortened, after a few days. The bandages are changed under the application of spray, first every third or fourth day, but, after the first week, they can be left five, and, later, eight days. When the wound is healed, a plaster bandage is used for a long time to complete the consolidation. The chances of preserving an useful limb have been considerably increased by the antiseptic treatment, but even in unsuccessful cases this treatment makes the later necessary amputations less dangerous. In cases of compound fractures in which amputations are necessary, the adjacent joints have nearly always to be fractured simultaneously, or some parts of the extremities, whole masses of muscles, etc., have to be torn off.

9. *Smyth on the Extirpation of a Floating Kidney.*—Mrs. Honora Arnetto, a native of Ireland, 35 years of age, of medium stature, delicate build, dark complexion, fifteen years married, without children, was brought to Dr. A. W. Smyth of New Orleans in April 1879. She gave the following history of her case. Eight years previously, she began to be afflicted with a pain in her right side. Shortly after the commencement of this pain, she discovered a tumour in her right side, to which she attributed her suffering. She tried various remedies for the relief of her pain, without any benefit. In 1873, Drs. Wilkinson and Calloway of Galveston, where she and her husband resided, performed on her the usual operation for ovarian tumour, without removing the cause of her trouble. The year following, her sufferings still continuing, Dr. Greenville Dowell, believing that the pain was owing to the mobility of the tumour, passed a large curved needle with a tape-seton through the walls of the abdomen, and through the tumour, with the purpose of causing adhesion, so as to prevent the moving of the tumour in the abdomen. Some hæmaturia was noticed after this operation. The seton was retained for three months, and gave some relief. At the end of that time the tape broke and came away. The seton caused a persistent offensive discharge from the wound. Six months afterwards, Drs. Calloway and Penny—Dr. Dowell being absent from Galveston—attempted twice to reintroduce the seton; but, on both occasions, broke their needles, leaving the broken ends in the abdomen. Two months later, Dr. Dowell introduced the seton again, but without giving as great relief from pain as in the first instance. From

continual suffering after this, her mind gradually became impaired, and in June 1875 she was taken to the State Lunatic Asylum in Austin, Texas, where she remained for two years. During her confinement there, the second seton came away. She recovered sufficiently to return home, and in November 1877 she came to New Orleans, where her husband was then living. On her arrival there she applied to the Charity Hospital, when Drs. Pratt and Miles, the surgeons in charge of the institution, told her the tumour was a floating kidney. She said this was the first intimation she received that it was her kidney that was the cause of her suffering. The medical officers of the Charity Hospital did not, however, suggest the propriety of surgical interference. Dr. Dowell, finding her anxious for a surgical operation, brought her to Dr. Smyth, with a request that he would attempt the removal of what he believed at this time to be the *fons et origo mali*—the floating kidney. Dr. Smyth promised that if she persisted in desiring it to be removed, after being informed of the risk, he would attempt the operation. Finding that the promise was received with so much courage and hopefulness, that she kept continually calling for its fulfilment, Dr. Smyth, after once or twice deferring the time for operating, engaged that on the 3rd of June, at the Hôtel Dieu, at 11 o'clock A.M., he would perform the operation. At this appointed time, Dr. Smyth found the patient quite courageous, and as determined as ever to have the operation performed. The operation was commenced by making an incision in the right side of the lumbar region, extending externally from the crest of the ilium to the edge of the eleventh rib, two inches and a half by measurement from the median line of the spine and parallel with it. Internally, the incision extended to the edge of the twelfth rib. The muscles and the transversalis fascia having been divided, search was made for the kidney, which was found in the umbilical region. The kidney, by pressure upon the abdomen, was forced into its place, and, while held there by an assistant, the fascia covering the kidney was ruptured by the finger, and the organ was extracted without difficulty. While still in the wound, a strong ligature was passed round the renal vessels and other connexions, at a distance of less than an inch—perhaps about half an inch—from the hilus; and the organ was then detached. No elongation of the connections of the kidney was observable. Nothing worthy of special note—much less anything untoward—occurred during the operation. At its conclusion, two sutures were inserted, to bring the edges of the integuments together, in the upper part of the wound; the ligature being left hanging out of the lower part. The wound was dressed with a solution of carbolic acid of the strength of one drachm to a pint of water. A hypodermic injection of half a grain of sulphate of morphia was administered, and repeated at bed time. On the day following there was slight febrile disturbance, which increased on the third day, when the temperature reached 103 deg. Fahr., and the pulse 100. On the fourth day the temperature was 102 deg. Fahr., and the pulse 80. On the fifth day the temperature was normal, and the pulse 70. Very free suppuration occurred from this time to the tenth day, when the ligature came away. On the eleventh day, the patient got up and walked about without pain. She complained of little or no suffering after the operation, and objected to the use of the hypodermic injection on account of the pain it gave her, after the fourth day. No medicine what-

ever of any kind, not a dose of anything, was given to the patient either before or after the operation, the only treatment used being four hypodermic injections of half a grain each of sulphate of morphia. The kidney removed was found to be of normal size, but to be scarred with a deep cicatrix, extending from the inferior and outer edge, obliquely up and out, and apparently through the pelvis. The length of the cicatrix was about two inches and a half. It was evidently the result of the seton introduced, which had cut its way completely out of the organ. The operation has been followed by complete recovery, and the patient no longer complains of the trouble afflicting her, on account of which it was undertaken. Owing to the limited information to be gathered from the ordinary text-books on the subject of this operation, it is not generally known that there had been more than one, that of Professor Simon, successfully performed. We find, however, in Bryant's *Practice of Surgery*, that at least as many as twelve are reported, with four recoveries. It may be worthy of special note that, in this case of Dr. Smyth's, the operation was performed through the lumbar region, that it was found not difficult of performance, and that it was not followed by any apparent dangers or risks.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. BUDIN and RIBEMONT.—Researches on the Dimensions of the Fœtal Head. (A. Delahaye, Paris, 1879.)
2. COUDRAY.—Peri-uterine Adeno-lymphitis. (*La France Médicale*, le 4 Octobre, 1879.)
3. DEHENNE, A.—Pathological Relations between the Eye and the Uterus. (*Annales de Gynécologie*, Septembre 1879.)
4. DELORE.—On the Changes in the Still-born Fœtus. (*La France Médicale*, le 13 Septembre, 1879.)
5. KALTENBACH, P.—The Glycosuria of Pregnancy. (*Zeitschrift für Gynäkologie*, den 13 September, 1879.)
6. LABBÉ.—Treatment of the Pedicle in Ovariectomy. (*Société de Chirurgie*, Séance du 15 Octobre, 1879.)
7. LOTHROP, THOMAS.—Antisepsis in Midwifery. (*Buffalo Medical and Surgical Journal*, September 1879.)
8. MANGIAGALLI, L.—Successful case of Cæsarean Utero-ovarian Amputation. (*Annali di Ostetricia Ginecologia e Pediatria*, Settembre 1879.)
9. MARTIN, A.—Vesico-vaginal Fistula. (*Séparat abdruck aus der Zeitschrift für Geburtshülfe und Gynäkologie*, Band iv, Heft 2.)
10. PATENKO.—Physiological Thrombosis of the Uterine Vessels in Pregnancy. (*Archiv für Gynäkologie*, Band xiv, Heft 3.)
11. PAWLIK.—Two cases of Porro's Operation. (*Wiener Medicinische Wochenschrift*, 1879, No. 2.)
12. POULLET.—Velamentous Insertion of the Cord as a cause of Premature Rupture of the Membranes. (*Annales de Gynécologie*, Octobre 1879.)
13. ROGER, G.—Condition of the Cervix Uteri in cases of Placenta Previa. (*Lancet*, October 25, 1879.)
14. ROTHE, C. G.—Compendium of Diseases of Women, for Students and Physicians. (A. Abel, Leipzig, 1879.)
15. SCHROEDER.—Fibromyoma of the Uterus removed by Laparotomy. (*Berliner Klinische Wochenschrift*, den 6 October, 1879.)
16. SCHÜCKING, ADRIAN.—Castration of Women. (*Centralblatt für Gynäkologie*, den 27 September, 1879.)
17. SMYTH, S. T.—Tubo-uterine Gestation. (*British Medical Journal*, October 18, 1879.)
18. STADTFELDT, A.—Labour Obstructed by Pelvic Tumours, in special regard to Laparo-elytrotomy, Laparo-

hysterotomy, and Hystero-ectomy. (*Obstetrical Journal of Great Britain and Ireland*, October 1879.)

19. STEVENS, E. B.—Condition of the Cervical Canal, as affecting the Menstrual Flow. (*The Obstetric Gazette*, Cincinnati, July 1879.)

20. VOLKMANN.—A case of Quintuplets. (*Centralblatt für Gynäkologie*, den 13 September, 1879.)

3. *Dehenne on Pathological Relations between the Eye and the Uterus.*—Dr. Dehenne points out that irido-choroiditis in young females often depends upon some disturbance of the uterine function, such as amenorrhœa or dysmenorrhœa. The following is a sketch of a common type of these cases. "A young girl, 14 or 15 years of age, pale, lymphatic, black under the eyes (les yeux cernés), seeks advice because she suffers from one of her eyes and can hardly see with it. Sometimes, but rarely, both eyes are affected. The range of vision of the eye has diminished for one or more years. It often reddens and becomes painful, then gets well, but relapses again a few days afterwards. The pupil is small and deformed; atropine has no action on it. The iris is slightly discoloured, and its equator arches forward in the anterior chamber. Perikeratic injection is more or less marked; the eye is hard and painful to the touch. Diagnosis: chronic recurring irido-choroiditis. Etiology: dysmenorrhœa or amenorrhœa. The patient lives in a damp place; has pains in her knee, elbow, and shoulder-joints. Her father and mother are rheumatic. Iridectomy is performed. The general condition is improved, and menstruation under this combined local and systemic treatment returns and the patient is cured." [The reporter has seen eyeball-tension of one eye associated with dysmenorrhœa. In such cases the advantage of iridectomy appears to be doubtful.—*Rep.*]

4. *Delore on Changes in the Stillborn Fœtus.*—As a rule, it is impossible to state the cause of death from an examination of the fœtus. Sometimes it is discovered in the placenta, but frequently it is impossible to find it in the fœtus, because it results from some condition of the mother, or from a separation of the placenta. The date of the death of the fœtus is very difficult to determine. The chief points are: in the first period, which lasts about two days, the fœtus is stained yellow by the meconium. In the second period, this yellow is replaced by the colour produced by the hæmatin. According as this is more or less uniform or more or less deep, so is the date of death more or less remote. In the third period the sanguineous coloration has completely gone, the fœtus is entirely of a greyish white; this state comes on about the end of a month. The placenta presents an uniform colour resembling that of the fœtus. In all cases, traces of the maternal circulation are to be found in the maternal portion; the blood has not lost its colouring, and frequent clots, recent and unchanged, are present, whilst no traces of them are to be found in the fœtus itself. The placenta is extremely friable and flaccid. The cord, like the placenta, is soft, and presents an uniform colour of the same tint as the fœtus; it is infiltrated and flattened; the spiral form has disappeared. The liquor amnii is stained yellow by the meconium during the first period; during the second it is reddish, and then brownish from the transudation of blood from the fœtus. The membranes present the same changes of coloration. They are first yellow from the bile, then reddish from the transuded blood. Dr. Delore deduces from the above the following propositions. 1. When the liquor amnii

which escapes from the membrane is coloured by the meconium or blood, the death of the fetus is probable. 2. Desquamation of the epidermis of the fetus is an incontestable proof of intra-uterine death. 3. *Débris* of cord or placenta suffice to denote death before delivery.

5. *Kaltenbach on the Glycosuria of Pregnancy.*—Kaltenbach is of opinion that the sugar found in the urine of pregnant women is in reality milk-sugar. Observation of thirty-four pregnant women showed that the sugar vanished from the urine with the disappearance of the milk in the breasts.

8. *Mangiagalli on Utero-ovarian Cesarean Amputation.*—Dr. Mangiagalli performed the Cesarean section, after Porro's method, on Erminia Corti, aged 24 years. The pubic bone was rostrated, and the promontory of the sacrum projected forwards into the pelvic cavity. There was scoliosis of the spine. The operation was performed a few hours after the waters broke. Listerian precautions were adopted. The pedicle was secured by Cintrat's constrictor. The operation lasted twenty-eight minutes. The amputated uterus weighed 800 grammes. The child was a healthy live male, weighing 2,600 grammes, and measuring 48 centimètres. The mother recovered without any complications. Speaking in reference to the antiseptic mode of operating, Dr. Mangiagalli says, "it seems to me, that to Lister more than to any other surgeon of our age, are due the splendid successes which have been obtained in surgery, and that to no one is the motto more applicable: *Si monumentum queris circumspice.*"

10. *Patenko on Thrombosis of the Uterine Vessels.* Friedländer first (1870) made the interesting observation, that towards the end of gestation many of the uterine vessels at the placental site become blocked by a remarkable thrombosis, composed of elements resembling decidual cells. Leopold confirmed this observation, and gave it as his opinion that the vessels were blocked by giant-cells which had penetrated through the walls of the vessels from the surrounding tissue. Patenko, on the contrary, holds that the thrombi are composed, not of wandering giant-cells, but of the direct elements of proliferation of the endothelium. He thinks it occurs in the following manner: During the later months of pregnancy there takes place, in many of the uterine vessels at the placental site, a swelling up and proliferation of the endothelium. This gives rise to an unevenness in the walls of the vessels, which retards the current of the blood and so produces a thrombus. These thrombi exert over the proliferating endothelium such an irritation that marked hypertrophy and hyperplasia of the endothelium result. The newly proliferated cells then become detached from the walls of the vessels and penetrate the thrombus, where they develop into giant-cells, and so build up the organisation of the thrombus.

13. *Roper on the Condition of the Cervix Uteri in cases of Placenta Prævia.*—Dr. George Roper describes a peculiar induration of the os or cervix uteri at the site of the placental attachment, dependent on an alteration of the uterine texture of that part on which the placenta is implanted. From clinical observation, it may be said that, wherever the placenta grows, whether on the fundus or elsewhere on the inner uterine surface, the area of attachment is marked by induration and thickening of the uterine tissue. In Dr. Roper's experience, the clinical fact has been that induration and thickening, corresponding to the extent of placental attachment, have been unusually great, and the induration has con-

stituted one of the greatest difficulties in the way of safely effecting forced delivery. In cases of placenta prævia in which the placenta is centrally placed, there is induration of the entire circumference of the inner os. If the placenta prævia be partial, then there is demonstrative proof of the induration described, because on examination that part of the cervix to which the placenta has been attached will be found indurated and unyielding, while the portion of the cervix to which the placenta has not been attached is soft and elastic. Dr. Roper relates a case of partial placenta prævia in which the portion of the cervix to which the placenta had been attached was so hard and unyielding that, in spite of every care and gentleness, it became lacerated during the passage of the head.

14. *Rothe's Compendium of Gynecology.*—This handy and carefully-prepared manual is intended especially as a practical guide to the country practitioner, in the diagnosis and practice of the chief gynecological manœuvres, exploratory and therapeutical. It is, says Dr. Rothe, especially to the country doctor, far from the centres of knowledge, that the words of Mephistopheles are most applicable—

"Und lernt die Weiber recht zu führen!
Es ist ihr ewig Weh und Ach
So tausenfach
Aus einem Punkte zu Kuriren!"

The chapter on physical exploration is very clear and complete, and the mode of using the necessary instruments minutely detailed. The description of that somewhat mysterious affection, irritable uterus or "mutterweh", is original, and deserves attention. The several inflammations of the vagina are well described and distinguished. In all respects this little manual is satisfactory, and constitutes a fairly complete digest of the gynecological knowledge of to-day.

15. *Schröder on Fibromyoma of the Uterus.*—Herr Schröder removed the entire uterus, together with a large myoma growing therefrom, by laparotomy. The left Fallopian tube was found adhering to the abdominal wall. In the connective tissue surrounding the uterus, on the right side was a tumour containing pus, which was removed along with the uterus. The patient died.

16. *Schücking on Castration of Women.*—Dr. A. Schücking performed Battey's operation on a woman aged 38 years, the mother of six children. The grounds for the operation were marked hysteria, epileptic attacks, metrorrhagia, with painful menstruation, and trismus. Bromide of potassium, iron, massage, baths, valerian, morphia, chloral-hydrate, rubbing in of tincture of iodine over the region of the ovaries, and the administration of Fowler's solution, were ineffectual. It was therefore resolved to operate. The ovaries were removed through an abdominal incision, and the pedicles secured with catgut. The Listerian method was employed in all its details. The spray was a 2½ per cent. solution of carbolic acid. Hardly a drop of pus was present in the wound on the tenth day after the operation. The recovery was rapid, and the result of the operation most gratifying. The abdominal pain, the uterine bleeding, the cataleptic attacks, the trismus, and other symptoms have vanished. The patient now feels well and healthy. Microscopic examination of the ovaries gave no positive results, scarcely any discernible pathological changes having taken place.

20. *Vollmann on a Case of Quintuplets.*—Dr.

Vollmann was called to Frau S., aged 27, who had previously had two living female children. Labour had begun at eleven o'clock in the morning, and at half-past nine in the evening the first bag of waters broke. Immediately afterwards, the first child, presenting with the vertex, was born. On examination *per vaginam*, the second bag of waters could be felt distended. This burst with the next pain, and the second child was rapidly expelled head first. The third was expelled in a similar manner, after which the labour-pains subsided for a while. The pains presently returned, and the fourth child was expelled in the same way as the others. A few minutes later the fifth child was expelled *en masse*, with its placenta and bag of waters unbroken. This was soon followed by the expulsion of two more placentæ, one large and one small. The uterus contracted spontaneously, and there was no bleeding. The children, all well formed, the first four of which were of the male sex, all breathed, but only lived a few hours. The last, the female, lived the longest, five hours. They appeared to have had about six months and a half of intrauterine life. The first three were in one bag, and the three placentæ were joined together. The fourth and fifth children had each a separate chorion and placenta. The lying-in and recovery were without any complications.

FANCOURT BARNES, M.D.

PHYSIOLOGY.

RECENT PAPERS.

1. KLEIN, E.—Ein Beitrag zur Kenntniss der Structur des Zellkernes und der Lebenserscheinungen der Drüsenzellen. A Contribution to the Knowledge of the Structure of Cell-Nuclei, and of the Manifestations of Life in Gland-Cells. (*Centralbl. für die Med. Wiss.*, 1879, p. 289.)

2. USKOFF, N.—Einfluss von farbigen Lichtern auf das Protoplasma des Thierkörpers. The Influence of Coloured Light on the Protoplasm of the Animal Body. (*Centralbl. für die Med. Wiss.*, 1879, p. 449.)

3. FLEMMING, W.—Ueber das Verhalten des Kerns bei der Zelltheilung, und über die Bedeutung mehrkerniger Zellen. On the Behaviour of the Nucleus when Cell-division takes place, and on the Significance of Cells containing many Nuclei. (*Virchow's Archiv*, Bd. 77, 1879, p. 1.)

4. WALDSTEIN, L.—Ein Beitrag zur Biologie der Bakterien. A Contribution to the Biology of Bacteria. (*Virchow's Archiv*, Bd. 77, 1879, p. 34.)

5. ARNOLD, J.—Ueber feinere Structur der Zellen unter Normalen und Pathologischen Bedingungen. On the Intimate Structure of Cells under Normal and Pathological Conditions. (*Virchow's Archiv*, Bd. 77, 1879, p. 181.)

6. ROY, CHARLES S.—A New Microtome. (*Journal of Physiology*, vol. ii, p. 19.)

7. PUTNAM, J. J.—On the Reliability of Marey's Tambour in Experiments requiring accurate notations of Time. (*Journal of Physiology*, vol. ii, p. 209.)

1. Klein on the Structure of Cell-Nuclei.—Klein communicates a paper on the Structure of the Nuclei of Cells, and on the Manifestations of Life in Gland-Cells. When a transverse section is made through the tail of a recently killed triton, and a small particle of the white fatty tissue lying at the posterior border of the tail is removed and examined in a drop of fresh aqueous humour of a frog, there are seen: 1. A few colourless and coloured blood-corpuscles; 2. Smaller and larger cells filled more or less completely with fatty particles. These giant-cells are epithelial cells from the large gland-sacs.

They possess one or two spherical or elliptical clear nuclei of large size—"giant-nuclei". Where the fat particles allow of it, an intranuclear network can be seen in these nuclei. The following remarkable appearances now show themselves in these cells. *a.* They undergo very beautiful amoeboid movements, in the course of which lumps may be seen to protrude and to be cut off from the main mass. *b.* Large and small giant-cells may be seen to empty themselves, as with a jerk, of their fatty particles in whole or in part, and immediately thereafter resume their amoeboid movements. *c.* In a similar manner, these cells may be observed to discharge their nuclei, and then continue their movements; and thus it comes to pass that, in fluid from such a section, many of these giant nuclei are found in the free state. 3. Numerous free nuclei, as just said. These show amoeboid movements, and the intranuclear reticulum can be observed with peculiar clearness in such nuclei. In the largest specimens of these giant-nuclei, changes can be observed in the intranuclear network which correspond to local contractions.

2. Uskoff on the Influence of Coloured Light on the Protoplasm of the Animal Body.—With regard to the influence of coloured light on the protoplasm of the animal body, Uskoff states that, when the ciliated epithelial cells from the oesophagus of the frog are examined microscopically with violet light, the movement of the cilia soon becomes so energetic as to cause rotation of the cells as they lie free in the oesophageal mucus. If, now, the tint of the light be changed to red by the interposition of a piece of coloured glass in front of the microscope, such movement instantly ceases. This cessation, though complete, only lasts for a few seconds, when rotation again begins. The colour of the light was also seen to have some effect on the amoeboid movements of the colourless blood-corpuscle.

5. Arnold on the Intimate Structure of Cells containing many Nuclei.—On the intimate structure of cells under normal and pathological conditions, Arnold remarks that the two elements which we distinguish, the body and the nucleus of the cell, consist (in addition to the envelope) of granules, of strings of granules, and of threads, which last, in the developed cell-forms, can be disposed in a very complicated way; it is, therefore, doubtful, whether Max Schultze's definition of a cell can still hold good. According to the author, the cell is formed of a nucleus and of overlying substance, both of which consist of particles and threads embedded in a homogeneous primitive substance.

7. Putnam on Marey's Tambour.—Putnam concludes from experiment, that Marey's tambour is reliable in time experiments within '001' to '002', with the exception of very feeble impulses. In reading tracings, the point of divergence of curves which rise very slowly from the normal line should be read a little liberally. The absolute delay in the motion of the lever of an average tambour will not differ much from '004' to '005'.

PHYSIOLOGICAL CHEMISTRY.

RECENT PAPERS.

1. ADAMKIEWICZ, A.—Ueber die Schicksale des Ammoniaks im gesunden und über die Quelle des Zuckers und das Verhalten des Ammoniaks im Diabetes-kranken Menschen. On the Destinations of Ammonia in Healthy Persons, and on the Sources of Sugar and the Behaviour of Ammonia in Diabetic Patients. (*Virchow's Archiv*, Bd. 76, 1879, p. 377.)

2. LEWIN, L.—Ueber die Zersetzung Trisulfocarbon-saurer Alkalien im Thierkörper. On the Breaking-up of the Alkaline Salts of Trisulphocarbonic Acid in the Animal Body. (*Virchow's Archiv*, Bd. 76, 1879, p. 452.)

3. LANGGAARD, A.—Ueber das Vorkommen von Cholestearin im Harn. On the Presence of Cholesterol in the Urine. (*Virchow's Archiv*, Bd. 76, 1879, p. 545.)

4. AUERBACH, A.—Zur Kenntniss der Oxydationsprozesse im Thierkörper. On the Processes of Oxidation in the Animal Body. (*Virchow's Archiv*, Bd. 77, 1879, p. 226.)

5. GAMGEE and BLANKENHORN.—Ueber Protagon. On Protagon. (*Virchow's Archiv*, Bd. 77, 1879, p. 389.)

6. MARCHAUD, F.—Ueber das Methämoglobin. On Methämoglobin. (*Virchow's Archiv*, Bd. 77, 1879, p. 488.)

7. LASSAR, O.—Notiz den Eiweissarn nach Styra-Einreibung betreffend. Note concerning the Albuminuria which follows the rubbing in of Styra. (*Virchow's Archiv*, Bd. 77, 1879, p. 558.)

8. CHITTENDEN, R. H.—On the Formation of Hypoxanthine from Albumen. (*Journal of Physiology*, vol. ii, p. 28.)

9. GAMGEE, A., and BLANKENHORN, E.—On Protagon. (*Journal of Physiology*, vol. ii, p. 113.)

10. SEEGEN, J.—Zucker im Normalen Harn. Sugar in Normal Urine. (*Centralbl. für die Med. Wiss.*, 1879, p. 273.)

11. GAMGEE, A.—On Some Old and New Experiments on the Fibrin-Ferment. (*Journal of Physiology*, vol. ii, p. 145.)

12. ROBIN, A.—De la Production du Phénol dans l'Organisme, considérée au point de vue Physiologique et Clinique. On the Production of Phenol in the Organism, considered from a Physiological and Clinical point of view. (*Gazette Médicale de Paris*, 1879, p. 301.)

13. Sur le Mode de Combinaison du Fer dans l'Hémoglobine. On the Mode of Combination of Iron in Hæmoglobin. (*Gaz. Méd. de Paris*, 1879, p. 306.) New analyses confirm the author's former conclusion, i.e., that the iron in the blood-corpuscles exists in the form of phosphate, and only in that form.

14. PAGE, F. J. M.—Some Experiments as to the Influence of the Surrounding Temperature on the Discharge of Carbonic Acid in the Dog. (*Journal of Physiology*, vol. ii, p. 228.)

1. *Adamkiewicz on the Destinations of Ammonia in Healthy Subjects.*—Adamkiewicz embodies in a very elaborate paper the results of repeated clinical observations on the destination of ammonia when it is administered to healthy persons, and on the sources of sugar and the behaviour of ammonia in diabetic cases. With regard to the first of these points, he concludes: *a.* Chloride of ammonium does not become decomposed in the human intestine. The total quantity of chlorine which appears in the urine after the administration of chloride of ammonium, is a reliable measure of the quantity of salt which has been absorbed. *b.* The greater part of the ammonia which is absorbed in the chloride of ammonium disappears in the bodies of healthy persons, and most probably appears in the urine in the shape of urea. *c.* The chloride of ammonium has, in healthy persons, the same action as chloride of sodium; it withdraws water from the tissues, and favours the breaking-up of albumen. *d.* The breaking-up of albumen and the elimination of ammonia do not go parallel in the human subject. A second series of observations served to indicate that, in diabetic patients, the sugar which appears in the urine is formed not merely from fat and hydrocarbons, but also from albuminous bodies; and that just as there is a physiological fat-formation from albumen, so there is also a pathological sugar-formation from albumen. Further observations showed: 1. In diabetic patients, ammonia disappears

rapidly; 2. Along with this assimilation of ammonia there is connected a disappearance of sugar; 3. This disappearance of sugar may be absolute in slighter cases of that disease; 4. So long as sugar is still being eliminated during the administration of chloride of ammonium, the ammonia which disappears does not increase the elimination of water nor of nitrogen, and, therefore, is certainly not being converted into urea; 5. When the administration of chloride of ammonia has arrested the excretion of urea, the ammonia which is absorbed increases the elimination of water and of nitrogen, and, therefore, is being converted into urea, and is eliminated as such.

2. *Lewin on the Breaking-up of the Salts of Trisulphocarbonic Acid.*—From a series of experiments on the breaking-up of the alkaline salts of trisulphocarbonic acid in the animal body, Lewin shows that animals to whom these salts have been administered die with symptoms of suffocation. During life a gas is formed which blackens lead paper. These salts break-up into sulphuretted hydrogen and bisulphide of carbon. It is probable that death is due to the presence of the former, and the influence of the latter cannot be great, since loss of consciousness (one of the prominent symptoms in poisoning with bisulphide of carbon) was not observed in these animals.

4. *Auerbach on the Processes of Oxidation in the Animal Body.*—Auerbach details the results of experiments on the processes of oxidation in the animal body, particularly with regard to the oxidation of phenol. When phenol is administered to dogs, by no means the whole is excreted as such, a large percentage disappearing in the body. By combining the phenol with alkalies, the amount excreted was increased, and the amount which underwent oxidation correspondingly diminished. The author further shows that the theory of Salkowski, according to which phenol becomes oxidised in the body into oxalic acid, does not hold good as regards dogs, or in any case, if such a substance be formed, it is not the end product of the oxidation process.

6. *Marchand on Methämoglobin.*—In regard to methämoglobin, Marchand believes that, in addition to the acid and alkaline methämoglobins, there is a higher oxidation product of hæmoglobin, which, like these, exists in an acid and in an alkaline modification. In acid solution it is recognised by two absorption-bands, but in slightly tinted alkaline solution no characteristic bands were observed. Both solutions by reduction showed the bands of oxyhæmoglobin, and by the action of a stream of carbonic acid gas, those of hæmoglobin.

8. *Chittenden on the Formation of Hypoxanthine from Albumen.*—As a result of experiments on the formation of hypoxanthine from albumen, Chittenden finds: 1. That hypoxanthine is formed in small quantities from blood-fibrine by twelve to twenty-four hours' boiling with water, while egg-albumen under the same treatment fails to yield noticeable quantities of hypoxanthine; 2. That blood-fibrine, digested at 40° C. in 0.2 per cent. hydrochloric acid for several days, yields appreciable quantities of hypoxanthine, while egg-albumen similarly treated shows no trace of hypoxanthine; 3. That by the action of gastric juice at 40° C. on blood-fibrine among other decomposition products, hypoxanthine is formed, while from egg-albumen under similar conditions no hypoxanthine is produced; 4. That by digestion of blood-fibrine in pancreatic juice, hypoxanthine is formed together with leucine, tyrosine, and other products of decomposition; and that hypoxanthine is also formed from

egg albumen, by the action of pancreatic juice, though less readily than from blood-fibrine; 5. That the hypoxanthine produced from blood-fibrine by Salomon's methods is formed, not from the splitting up of any one substance contained in the fibrine, but from the decomposition of the albumen itself, inasmuch as the less readily decomposable egg-albumen, under the influence of the more powerful pancreatic ferment, also yields hypoxanthine.

9. *Gamgee on Protagon*.—The researches of Gamgee and Blankenhorn on protagon fully confirm the cardinal facts in Liebreich's original research. The analyses of protagon have indeed led to somewhat different numbers, and have shown that Liebreich was in error in selecting certain peculiar anomalous analyses as bases for his calculations. The authors explain the more satisfactory results they obtained, as in main part due to the employment of chromate of lead in the combustions instead of oxide of copper. These analyses completely establish the fact of the existence of a definite chemical individual protagon.

11. *Maixner on Peptonuria*.—To detect pepton in urine, Maixner first separates out all the albumen and mucin which the urine may contain. The urine is then precipitated with tannin, the precipitate decomposed with barium hydrate, and the excess of the latter removed by means of sulphuric acid. The fluid is then concentrated and tested for the presence of pepton with Biuret's test and Millon's reagent.

12. *Gamgee on Protagon*.—In his memoir on fibrin-ferment, Gamgee first of all repeats the original observations of Andrew Buchanan, and then proceeds to make some further observations on the same subject. He concludes as follows. 1. The washed blood-clot of Buchanan does not possess the property of inducing coagulation in fluids, which unquestionably contain fibrinogen and paraglobulin, but which do not coagulate in the absence of the so-called fibrin-ferment; 2. The principle, whatever it may be, which confers this property on washed blood-clot is almost insoluble in distilled water; 3. The principle is readily soluble in solutions containing moderate quantities of chloride of sodium; 4. Circumstances which lead to the precipitation of the globulins diminish in a remarkable degree the activity of the new ferment solutions; 5. Active salt solutions are rendered inert at the temperature of 56-58 deg. C., which corresponds to the temperature of coagulation of two of the globulins, myosin and fibrinogen. All these facts would lead one to suspect that the so-called fibrin-ferment is in reality a proteid body, belonging to the group of globulins, and not merely that it is a body which is carried down from its solutions by a globulin which is being precipitated.

15. *Page on Temperature*.—The experiments of Page, as to the influence of the surrounding temperature on the discharge of carbonic acid in the dog, go to show that there is a temperature of the surrounding medium (about 25 deg. C. for the dog), at which the carbonic acid discharged from the animal is at a minimum. Below this temperature, the quantity of carbonic acid discharged, increases as the temperature falls; above this the discharge also increases, and at high temperatures (40-42 deg. C.) the increase may be very rapid.

CIRCULATION AND RESPIRATION.

RECENT PAPERS.

1. *HAYEM, G.*—Recherches sur l'Évolution des Hématies dans le Sang de l'Homme, et des Vertébrés—Researches on

the Development of the Coloured Blood-Corpuscles in Man and the Vertebrate Animals. (*Archives de Physiologie*, 1879, p. 201.)

2. *RIEGEL and TUCZEK*.—Zur Frage der Hemisystole—On Twin Apex-beat. (*Berl. Klin. Woch.*, 1879, No. 6.)

3. *SKORCZEWSKI, R.*—Ueber das Verhalten der Arterien und Venen unter Einwirkung eines CO₂ Stromes—On the behaviour of the Arteries and Veins under the action of a Stream of Carbonic Acid Gas. (*Sitzungsber. und Abhandl. der Krak. Acad. der Wiss.*; Virch. and Hirsch's *Fuhrer*., 1878, p. 182.)

4. *LABBÉ, CH.*—Note sur la Circulation Veineuse du Cerveau et sur le Mode de Développement des Corpuscles de Pacchioni—Note on the Venous Circulation of the Brain, and on the Mode of Development of the Corpuscles of Pacchioni. (*Archives de Physiologie*, 1879, p. 135.)

5. *DASTRE et MORAT*.—De l'innervation des Vaisseaux Cutanés—On the Innervation of the Cutaneous Vessels. (*Archives de Physiologie*, 1879, p. 409.)

6. *FILEHNE and PENZOLDT*.—Ueber den Spitzenstoss—On the Apex-beat. (*Centralbl. f. d. Med. Wiss.*, 1879, No. 26 and 27.)

7. *LUCHSINGER, B.*—Ueber eine Eigenthümliche Missbildung eines Froschherzens—On a Peculiar Malformation of the Heart of a Frog. (*Virch. Arch.*, Bd. 76, p. 533.)

8. *ROY, CHARLES S.*—The Form of the Pulse-Wave, as studied in the Carotid of the Rabbit. (*Journal of Physiology*, vol. ii, p. 66.)

9. *GARLAND, G. M.*—Pharyngeal Respiration. (*Journal of Physiology*, vol. ii, p. 82.)

10. *MARTIN, H. N., and HARTWELL*.—On the Respiratory Function of the Internal Intercostal Muscles. (*Journal of Physiology*, vol. ii, p. 24.)

11. *BOWDITCH and GARLAND*.—The Effect of the Respiratory Movements on the Pulmonary Circulation. (*Journal of Physiology*, vol. ii, p. 91.)

12. *SIHLER, C.*—On the So-called Heat-dyspnoea. (*Journal of Physiology*, vol. ii, p. 191.)

1. *Hayem on the Development of the Coloured Blood-Corpuscles*.—In regard to the development of the red blood-corpuscles, the study of comparative anatomy brings Hayem to the following conclusions. The blood of vertebrates contains constantly a large number of particular elements which undergo great modifications, so that when they escape from the blood-vessels they run together to form a fibrous network. These elements possess, then, qualities totally different from those of the white cells (which remain always independent of that meshwork), qualities which correspond to special histological and histochemical characters. Between the largest and smallest of these elements there are always to be found intermediate specimens, which show that we have to do merely with one and the same element in the course of evolution. In the course of development these elements lose their primary characteristics and assume these of the red blood-disc. In spite of the two different types under which the red corpuscles present themselves (nucleated and non-nucleated), the evolution which these elements undergo is the same in all vertebrate animals. In all cases they commence by being hæmatoblasts, nucleated or non-nucleated, of which the general physiological properties are the same in all classes. Under certain conditions the intermediate forms become very abundant, as, for example, when the animals have been subjected to considerable hæmorrhage, to which succeeds a phase of regeneration of blood.

2. *Riegel and Tuczek on Twin Apex-Beat*.—In considering the question of a double apex-beat, Riegel and Tuczek deal rather with the mode of production of the pulsus bigeminus than with the peculiar irregularity arising from independent con-

traction of the right and left ventricles. The animals experimented on (rabbits and dogs) were curarised after the tracheæ had been opened and artificial respiration begun. Tracings from the right ventricle and the carotid were taken, by means of manometers, on the kymograph cylinder. In some cases the *nervi vagi* were divided, in others they were not interfered with. Respiration was then stopped. Along with symptoms of suffocation, irregularities in the heart's action very frequently appeared, in particular in the form of the *pulsus bigeminus*, in which both sides of the heart equally participated throughout. No indication of independent action of the two ventricles was observed.

3. *Skorczewski on the Behaviour of the Arteries and Veins.*—To discover what influence carbonic acid gas exercises on the diameter of the blood-vessels, Skorczewski has carried out two series of experiments, on the ears of non-curarised rabbits, and on the tongues of curarised frogs. His results were as follows: 1. Under the action of carbonic acid the diameter of the arteries in rabbits increased about 24.6 per cent., in frogs about 18.2 per cent.; the veins diminished in diameter about 17.4 per cent. in rabbits, and about 10.2 per cent. in frogs. 2. These conditions remained constant for some time after the removal of the carbonic acid gas. 3. A constant relation between the dilatation of the arteries and the contraction of the veins could not be discovered. 4. The natural width of the vessel had no influence on its behaviour under the influence of carbonic acid. 5. In cases where variations in size of the blood-vessels occurred markedly before the use of the carbonic acid gas, the influence of the gas greatly increased these variations. 6. Occasionally there occurred a contraction of the arteries and a dilatation of the veins under the influence of the gas, but the opposite condition rapidly established itself.

6. *Filehne and Pensoldt on the Apex-Beat.*—On the subject of the cardiac apex-beat Filehne and Pensoldt conclude, from observations on man and experiments on the lower animals, that during the ventricular systole the heart moves upwards and to the right, and not, as has been almost universally supposed, downwards and to the left. In rabbits, guinea-pigs, and dogs, the pericardium was laid bare by the removal of certain of the ribs, in such a way that the cardiac pulsations could be accurately observed. In order to be able to distinguish clearly between systole and diastole, the action of the heart was rendered slow by irritation of the peripheral end of the *nervus vagus*, while the observation was rendered still more exact by the cessation of respiration induced by irritation of the central end of the same nerve. Under these conditions, it became apparent that with each ventricular systole the apex of the heart moved forwards and to the right, whilst with the diastole it passed backwards and towards the left.

8. *Roy on the Form of the Pulse-Wave.*—To investigate the form of the pulse-wave, Roy made use of an instrument which he describes under the name "Sphygmotonometer", and by which he obtained tracings from the carotid artery of rabbits, both from the unopened and from the opened vessel. For a description of this instrument, the original memoir must be consulted. When the opened artery is used the pulse-wave causes a simple rise and fall in the writing-lever of the instrument, without any trace of dicrotism or polycrotism. The blood-pressure with each pulse-wave rises more rapidly than it falls, and different tracings differ considerably, in so far as the

sharpness of the apex of the curve is concerned, in the strength of the wave, etc., but dicrotism is invariably absent. That the absence of the secondary waves is not due to any fault in the instrument, is proved by the fact that under certain abnormal conditions a dicrotic wave appears in tracings taken from the opened artery. Any considerable reduction of the medium blood-pressure (as after venesection) leads to the appearance of a dicrotic pulse-wave. When the instrument is adapted to the unopened artery, the tracings obtained resemble very closely those taken by Marey's sphygmograph. Since, therefore, with the same instrument secondary indentations are found in tracings taken from the unopened artery, while no such indentations appear in those obtained where the vessel has been opened, it is clear that the arterial wall must be the element which leads to the appearance of those characteristic indentations, and that we must completely reject those theories which would ascribe them to reflected, opening, and closing waves, etc., or in fact to secondary waves at all, of whatever origin. The author holds that in producing these undulations the arterial wall does not merely play a passive but an active rôle; in other words, they are due to an active contraction of the muscular coat of the artery. With a reduced blood-pressure the pulse-curve is dicrotic both from the opened and the unopened artery. This form of dicrotism must not be confounded with the undulations more or less marked which give to the pulse-curve its characteristic outline. The dicrotism from reduction of the blood-pressure is characterised by the fact that it does not disappear when the extra-arterial pressure is raised nearly as high as the blood-pressure (an arrangement which the sphygmotonometer admits of), showing that it is due to a reflected, and most probably, secondary wave.

9. *Garland on Pharyngeal Respiration.*—On the subject of pharyngeal respiration, Garland describes certain experiments made by Prof. Bowditch and himself to confirm an observation accidentally made in the laboratory, that in dogs where the trachea was severed and the upper part entirely removed from connection with the chest, air continued to pass in and out of the mouth. This phenomenon was found to be due to rhythmical contractions of the muscles of the pharynx. Pharyngeal expansion is a preliminary movement preparatory to the coming inspiration; pharyngeal contraction is essentially an inspiratory effort and coincides with inspiration. These pharyngeal changes have probably but a slight influence on the respiratory current under ordinary circumstances. From a biological point of view these movements have considerable interest, as they seem to reveal a connecting link between thoracic and throat respiration.

10. *Martin and Hartwell on the Respiratory Functions of the Internal Intercostal Muscles.*—To ascertain the function of the internal intercostal muscles, Martin and Hartwell isolated one of these muscles (in dogs and cats), and observed whether it acted simultaneously or alternately with the diaphragm, believing that, from the general co-ordination of muscular contractions in the respiratory movements, its function could thus be settled. The result of these experiments was to show that the internal intercostals are expiratory in function throughout their whole extent, at least in the dog and cat. In the former animal they are almost "ordinary" muscles of respiration, coming into play very early in dyspnoea, while in the latter they are "extraordinary" respi-

ratory muscles only active during extreme dyspnoea.

11. *Bowditch and Garland on the Effect of the Respiratory Movement on the Pulmonary Circulation.*—Bowditch and Garland give the results of experiments on the effects of the respiratory movements on the pulmonary circulation. They may be summarised as follows. When defibrinated blood is made to circulate through the pulmonary vessels, the atmospheric pressure upon the vessels delivering and receiving the blood being always the same as that upon the external surface of the lungs, the first temporary effect of expansion, either by inflation or by aspiration, is to increase the amount of blood flowing from the pulmonary veins. This is soon followed by a diminution in the amount transmitted, which persists so long as the expansion is maintained. When the lungs are allowed to collapse, there is a temporary diminution, followed by a permanent increase in the amount of blood flowing through the pulmonary vessels. The connection between the changes in the capacity of the pulmonary vessels and their power to transmit blood is obvious. Expansion of the lungs, by diminishing the size of the pulmonary vessels, presses out a certain amount of blood into the left auricle, and thus causes a temporary increase in the flow of blood. But the vessels when reduced in size offer a greater obstacle to the flow of blood, and this very soon results in a permanent diminution in the amount of blood transmitted. When the lungs are allowed to collapse the opposite effects are produced. Since expansion of the lungs, whether effected by inflation or by aspiration, always produces the same retardation of the pulmonary circulation, provided the cavities from which the blood is received and into which it is delivered are under the same pressure as the external surface of the lungs themselves, it remains to be considered how far this condition prevails in the living animal. A discussion of this question will be attempted in a subsequent article.

12. *Sihler on so-called Heat-Dyspnoea.*—The experiments of Sihler on the so-called heat-dyspnoea were undertaken to control Goldstein's observations on the same subject. The latter writer had shown that, when the carotid of a dog was exposed and laid on a brass tube through which warm water circulated, the respirations became more rapid. This dyspnoea Goldstein attributed to the heating of the blood as it passed through the carotid artery and the consequent stimulation of the respiratory centre in the medulla. This theory Sihler refutes. The increased rate of respiration was due, not to the raised temperature of the blood (for it occurred even when the artery was clamped), but to the pain which the heated brass produced. Even when the circulating blood was heated, he sees reason to believe that the consequent dyspnoea is caused by its greater venosity, and not, or not only, by its raised temperature.

MUSCLE AND NERVE.

RECENT PAPERS.

1. *Tschiriew, S.*—Sur les Terminaisons Nerveuses dans les Muscles Striés.—On the Terminations of Nerves in Striped Muscles. (*Arch. de Physiol.*, 1879, p. 89.)

2. *Richet, Ch.*—Contribution à la Physiologie des Centres nerveux et des Muscles de l'Écrevisse.—Contribution to the Physiology of the Nervous Centres and Muscles of the Lobster. (*Archiv. de Physiol.*, 1879, p. 262.)

3. *Tschiriew, S.*—Etude sur la Physiologie des Nerfs

des Muscles Striés.—Study of the Physiology of the Nerves of Striped Muscles. (*Arch. de Physiologie*, 1879, p. 295.)

4. *Laubenbach, B. F.*—The Physiological Action of Heat. (*Journal of Physiology*, vol. ii, p. 1.)

5. *Sewall, H.*—The Effect of Two Succeeding Stimuli upon Muscular Contraction. (*Journal of Physiology*, vol. ii, p. 164.)

1. *Tschiriew on Nerve-Terminations in Striped Muscles.*—For the study of the termination of nerve-fibres in striped muscle, Tschiriew makes use of Ranvier's method of staining by plunging the tissue in lemon juice and then in a solution of chloride of gold. After very careful microscopic examination of the muscular fibre of various animals (frog, tortoise, lizard, triton, salamander, adder, rabbit), he concludes that in the muscular fasciculi themselves there do not exist other nervous terminations than those of the motor nerves, and that the nerve-fibres without myelin which are seen to intersect the muscles in all directions, terminate in the aponeuroses, and are the only nerves which can be connected with muscular sensibility. Regarding the mode of termination of motor nerves in striped muscle he concludes: 1. That the granular bed with fundamental nuclei which exists in the end-plates of certain species of animals does not constitute an essential part of the terminal apparatus, since it is not found in the whole animal series; 2. That the terminal branching of the axis-cylinder can alone be regarded as the essential part of the motor termination; this may be reduced, as in the case of the tortoise, to a single terminal stalk furnished with a nucleus; and 3. That consequently there is no essential morphological difference between the nervous terminations in striped and in smooth muscular fibre, showing that the different mode of contraction of these two varieties of fibre does not in any respect depend on the form of their nervous terminations. It is interesting to note that no difference could be detected between the nervous end-apparatus in the red and white muscles of the rabbit.

2. *Richet on the Physiology of the Nerve-Centres and Muscles of the Lobster.*—Richet draws the following conclusions. (a) The muscle of the tail becomes very rapidly exhausted, and can scarcely give thirty or forty consecutive contractions. (b) The muscle of the claw, excited by single electric currents, appears to become rapidly exhausted. (c) Nevertheless, in reality it preserves its excitability, and shews it when submitted to rapidly repeated irritations. (d) The tetanus of the muscle of the claw is sometimes rhythmic. (e) The muscle of the claw, when excited for a long time by electric currents, does not relax. Its contraction becomes more and more powerful for five or six minutes, and cadaveric rigidity begins before relaxation occurs. There is thus great difference between the fugitive tetanus of the tail muscle and the tetanus of the muscle of the claw, which remains up to death. (f) The muscle of the claw, after having been excited for some time, becomes more irritable.

3. *Tschiriew on the Physiology of the Nerves of Striped Muscles.*—Tschiriew, in a further communication, draws the following conclusions. (a) Irritation of the muscles in their normal condition does not give rise to pain, provided that the irritating agent does not destroy the tissue instantly, but acts during a certain time, and with a certain intensity. (b) On the other hand, in certain pathological conditions, the sensibility of the muscles to pain may be so exalted that the slightest irritation gives rise to intense suffering. (c) When striped muscles are

made to contract, we receive from them a specific sensation of tension, from which we are able to judge, within certain limits, of the force of the muscular contraction. (d) The sensation of muscular tension (muscular sense) appears to pass into a sensation of pain when the contraction reaches a certain degree. (e) By irritating muscles or their tendons in a certain way, one can produce reflex movements in the irritated muscles, as well as in other muscular groups. The striped muscles then have a nervous communication with the nerve centres, such that their excitation may give rise to three varieties of phenomena:—the sensorial sensation of muscular tension; sensation of pain; and reflex movements. Nevertheless the microscopic examination of striped muscle shews only one set of nerves, those of the aponeurosis, to which can be attributed the rôle of centripetal nerves. Is it possible to admit that these three varieties of phenomena are produced by the aid of one single variety of centripetal nerves? A remarkably clear and interesting train of reasoning enables the author to answer this question in the affirmative.

4. *Lautenbach on the Physiological Action of Heat.*—Lautenbach concludes that heat when applied to the motor nerves of frogs produces movements in the muscles: 1. By its action as a simple irritant; and 2. By its destructive effects. Movements may result from heat as a simple irritant at from 20 deg. to about 57 deg. Cent. The influence which these lesser degrees of heat exert on the motor nerves greatly resembles that exerted by the galvanic current, in that the movements frequently occur either on bringing the nerve into contact with the heated object, or on removing it.

5. *Sewall on the Effect of Two succeeding Stimuli upon Muscular Contraction.*—Sewall summarises the results of two succeeding stimuli upon muscular contraction as follows. 1. If a series of tetanic contraction curves, which arise from the succession of two simple contractions at various intervals, be laid off on the same base line, and the envelope of the tetanic curves be constructed with abscissa units, which mark the intervals at which the two single stimuli succeeded each other, to give the tetanic contractions of the heights measured on the corresponding ordinates; then the envelope curve will be irregular at the smallest intervals of stimulation usually rising suddenly from zero. The curve then ascends gradually to a maximum, and afterwards falls somewhat more regularly and quickly, tending to become parallel to the base line, at an interval between the single stimuli equal to the duration of a single contraction. The curves of two succeeding single contractions first fuse into a single unbroken curve, when they follow each other at an interval of about .026 second, corresponding to 38.8 stimuli in one second. The maximum height of a tetanus from two contractions is obtained when these are added after an interval of about .048 second, corresponding to about 20.8 stimuli in one second. 2. Every stimulation puts the muscle into a condition modifying its reaction towards succeeding stimuli. These variations need not be accompanied by a change of form. 3. Two succeeding maximal contractions may probably produce an increased tetanic contraction when following one another at an interval less than 0.001 second. Continued work at the small interval causes the summation to fail, but this power may return again after rest. 4. When a muscle excited by a single induction shock is restrained from contracting, its contractility is increased for a time by

maximal stimuli. If the restraining contraction be due to two stimuli succeeding one another within the time limits at which summation occurs, the increased contractility is still greater and more continued than in the former case. On continued work, the exalted contractility due to restrained contractions, suffers a continuous diminution. 5. When two contractions succeed each other at such an interval as to give a summated contraction, the curve of the second does not, under ordinary circumstances, exhibit itself upon the first until the latent period of the second is past (Helmholtz); but when the first contraction is restrained until the entrance of the second stimulus, it seems that the summation occurs immediately; i.e., the latent period of the second is annulled. 6. The period of greatest liberation of contractile energy in a muscle stimulated by a single induction shock and kept from shortening, occurs considerably before the period at which the normal contraction would have attained its maximum. The contractile power of a muscle so restrained, fails at a variable time before the termination of the normal contraction, excited at the same instant, would have been reached. The contractile energy in the stimulated unshortened muscle seems to reach its maximum about 0.051 second after the entrance of the stimulus. 7. It seems probable that variations of the contractility of a muscle, as shewn upon fatigue curves, follows a definite course, and may be expressed in terms of known factors.

CENTRAL NERVOUS SYSTEM.

RECENT PAPERS.

1. BOCHFONTAINE.—Recherches Expérimentales sur quelques Mouvements Réflexes déterminés par l'Excitation Mécanique de la Dure-mère—Experimental Researches on certain Reflex Movements, determined by Mechanical Irritation of the Dura Mater. (*Archives de Physiologie*, 1879, p. 1.)

2. MOELI, C.—Versuche an der Grosshirnrinde des Kaninchens—Experiments on the Grey Substance of the Brain of Rabbits. (*Virch. Arch.*, Bd. 76, 1879, p. 475.)

3. LEWINSKI, L.—Ueber den Kraftsinn—On Muscular Sense. (*Virchow's Arch.*, Bd. 77, 1879, p. 134.)

4. OTT, ISAAC.—Observations on the Physiology of the Spinal Cord. (*Journal of Physiology*, vol. ii, p. 42.)

5. LAUTENBACH, B. F.—On Absorption without Circulation. (*Journal of Physiology*, vol. ii, p. 110.)

6. BROWN-SÉQUARD.—Faits nouveaux relatifs à la mise en jeu ou à l'arrêt (inhibition) des Propriétés Motrices ou Sensitives de Diverses parties du centre Cérébro-rachidien—New Facts Relative to the Throwing into Action or to the Inhibition of the Motor or Sensory Properties of Different Parts of the Cerebro-spinal Centre. (*Arch. de Physiologie*, 1879, p. 495.)

7. CAILLOT DE PONCY et LIVON.—Recherches sur la Localisation de l'Arsenic dans le Cerveau—Researches on the Localisation of Arsenic in the Brain. (*Gazette Méd. de Paris*, 12 Juillet, 1879, p. 360.)

2. *Moeli on the Grey Substance of the Brains of Rabbits.*—From the experiments of Moeli on the brains of rabbits he concludes that, after complete destruction of the posterior half of the cortical substance of the cerebrum, vision is lost in the opposite eye, but when the wound is not too severe the loss of sight is only of very temporary duration. Loss of sensibility in the fore-legs was not observed.

4. *Ott on the Physiology of the Spinal Cord.*—In his observations on the physiology of the spinal cord, Ott repeats and confirms the experiments of Vulpian, Heidenhain, Luchsinger, etc., and further attempts

to localise the centres in the spinal cord from which the sweat fibres for the limbs arise. The sweat which appears on the foot of the cat when the peripheral end of the sciatic nerve is irritated, is due to a direct action of the nerve on the gland-cells. It can hardly arise from simple vaso-motor changes, for in an amputated limb the phenomenon can be produced. Neither can it be explained on the supposition that the irritation of the nerve causes the unstriated muscular fibres round the glands to contract, and so press out the secretion, for experiments show that the secretion may be excited for hours by prolonged stimulation of the nerve. Luchsinger's view that the sweat-centres, or at least some of them, lie in the cord, is confirmed by the following experiments. If the cord be divided between the sixth and seventh cervical vertebræ, and the animal be left to recover for some hours, and then asphyxia be produced, all the feet will sweat. That the accumulation of carbonic anhydride does not excite the secretion by a peripheral action, is shown by an experiment in which one sciatic was divided previously to asphyxiation, and in which the corresponding foot remained dry, while the others sweated. The action is not reflex, for it occurs after section of the posterior roots, so we must conclude that the sweating of asphyxia is due to a central action on the spinal cord. The author further treats of the vasodilator centres, of the rhythmical and genito-urinary functions of the cord, and of the path of secretory and inhibitory fibres.

5. *Lautenbach on Absorption without Circulation.*—As a result of various experiments on absorption when the circulation was cut off, Lautenbach believes that the nerves exert an active influence on certain cells of the skin in enabling these to absorb independently of the circulation. Frogs, in which the posterior extremities had been ligatured, were allowed to lie in water under varied conditions. In such circumstances the ligatured limbs swelled up to a considerable size, while the unligatured limbs remained unaltered. He further believes that the nerves which so act are not the ordinary motor nerves.

7. *Caillot de Poncy and Livon on the Localisation of Arsenic in the Brain.*—It having been already shown that arsenic, when administered to animals, accumulates in the cerebral substance, Caillot de Poncy and Livon attempt to show with what chemical principle in the brain the arsenic unites. On account of its chemical analogies, arsenic may be supposed to replace phosphorus. The latter substance is found in the brain in the form of lecithin, in which the phosphorus exists in the state of phospho-glyceric acid combined with neurin. If arsenic replace the phosphorus, then the latter must be eliminated, and in all probability by the urine. The object was, therefore, to determine whether the quantity of phosphoric acid eliminated by the urine was increased by the administration of arsenic. Various observations were made on guinea-pigs, and it was found that, when small quantities of arsenic were administered to these animals, the amount of phosphoric acid passing away by the urine became augmented. They conclude that the arsenic replaces the phosphorus in the phospho-glyceric acid, forming an arsenio-glyceric acid, and that the lecithin formed also contains arsenic in place of phosphorus.

SPECIAL SENSES.

RECENT PAPERS.

1. DROSODOFF, V.—*De la Mensuration de l'Épiderme dans les différens parties du Corps Humain et des rapports entre son épaisseur et la Sensibilité Electro-cutanée*—On Measurement of the Epidermis at Different Parts of the Body, and on the relation between its Thickness and the Cutaneous Electro-sensibility. (*Archives de Physiologie*, 1879, p. 117.)

2. WEBER-LIEL.—*Experimenteller Nachweis einer Freien Communication der Endolymphatischen und Perilymphatischen Räume des Menschlichen Ohrlabyrinthes mit Extralabyrinthischen Intracranialen Räumen*—Experimental Proof of a Free Communication between the Endolymphatic and Perilymphatic Spaces of the Human Labyrinth with the Extralabyrinthine Intracranial Spaces. (*Virchow's Arch.*, Bd. 77, 1879, p. 207.)

3. NETTLESHIP, E.—*Observation of Visual Purple in the Human Eye.* (*Journal of Physiology*, vol. ii, p. 38.)

4. GYSI and LUCHSINGER.—*Ueber das Verhalten der Aal-Iris gegen verschiedenfarbiges Licht*—On the Behaviour of the Iris of the Eel when exposed to Light of Different Colours. (*Centrbl. f. d. Med. Wiss.*, 1879, p. 691.)

5. GALEZOWSKI.—*Sur la Perception du Rouge de la Rétine par le Malade lui-même*—On the Perception of Retinal Red by the Patient himself. (*Gas. Méd. de Paris*, 1879, p. 361.)

1. *Drosdoff on Measurement of the Epidermis in different parts of the Body.*—In an interesting paper on the measurement of the epidermis at different parts of the human body, and the relation between its thickness and the cutaneous electro-sensibility (to the anatomical part of which we need not specially refer), Drosdoff points out that the thickness of the epidermis does not vary sensibly over the whole surface of the body, and consequently cannot play an important part in the variations of the cutaneous electro-sensibility which are well marked at different parts of the body. Sometimes, indeed, the epidermal thickness and the electro-sensibility stand in an inverse order. For example, over the neck the electro-sensibility is greater than at any other part of the body, while the epidermis is as thick, or even perhaps thicker than at other parts. The same is true even more constantly with regard to the points of the fingers, the palm of the hand and the sole of the foot. The electro-sensibility is very much greater and the epidermis thicker at the extremities of the fingers than in the centre of the palm or sole. Leyden's theory is therefore incorrect. There is equally a want of accord between the thickness of the epidermis and the electric conductivity.

3. *Nettleship on the Visual Purple.*—Nettleship has found visual purple in the human eye in five different cases where the eyeball was excised. In three of the specimens the yellow spot was well seen, and showed no trace of red to the naked eye. In the other two, owing to mechanical difficulties, this part was not identified. In all the specimens the colour was most intense in the posterior region of the retina; in one the colour extended far forwards and ceased rather abruptly a little behind the *ora serrata*.

4. *Gysi and Luchsinger on the Action of the Iris of the Eel when Exposed to Light of Different Colours.*—Gysi and Luchsinger find that, when the iris is removed immediately after death and placed on a watch-glass in salt-solution, and after remaining for some time in the dark is exposed to daylight, it contracts markedly, and again relaxes when the light is removed. The stronger the light the more striking is the result, and with direct sunlight the pupil closes

completely. The result remains the same when the light is made to pass through a thick plate of ice, so that the heat-rays are not the cause of the phenomenon. In the greater number of observations, the blue and green rays were found to have much the most powerful effect, the red rays reacted less strongly, the yellow still less, while with the ultra violet rays no effect at all was produced.

5. *Galezowski on the Perception of Retinal Red.*—Certain facts which Galezowski observed in those operated on for cataract, led him to suppose that in certain cases at least there is a perception of the retinal red by the patient himself. These persons perceive a red patch before their eyes, over a certain tract of the field of vision. In some the red is vivid, in others it is only rose-coloured. This phenomenon is persistent, and lasts many months without noticeable change. It is not in any way connected with the use of atropine as a collyrium, and the author thinks that without doubt it must be attributed to the perception of the retinal red, after the removal of the crystalline lens.

THE ACTION OF DRUGS, ETC.

RECENT PAPERS.

1. *POINCARÉ, L.*—Recherches Experimentales sur les Effets du Sulfure de Carbone—Experimental Researches on the Action of the Vapour of Bisulphide of Carbon. (*Archives de Physiologie*, 1879, p. 19.)

2. *LEWIN, L.*—Ueber eine Elementarwirkung des Nitrobenzols auf Blut.—On an Elementary Action of Nitrobenzol on Blood. (*Virchow's Arch.*, Bd. 76, 1879, p. 443.)

3. *MARCHAUD, F.*—Ueber die Intoxication durch Chlorsaure Salze.—On Poisoning with Salts of Chloric Acid. (*Virch. Arch.*, Bd. 77, 1879, p. 455.)

4. *OLTRAMARE.*—Des Effets Physiologiques du Salicylate de Soude sur la Circulation.—Physiological Effects of Salicylate of Sodium on the Circulation. (*Progrès Médical*, 1878, p. 464.)

5. *RINGER, SIDNEY*; and *MURRELL, W.*—On the Antagonism between Pilocarpine and the Extract of *Amanita Muscaria*. (*Journal of Physiology*, vol. ii, p. 135.)

1. *Poincaré on the Action of the Vapour of Bisulphide of Carbon.*—In order to study the action of the vapour of bisulphide of carbon, Poincaré inclosed the animals to be experimented on (guinea-pigs and frogs) in closed boxes, into which the vapour was slowly passed. His results are these. 1. Men resist the effects of this vapour much better than these animals. 2. In guinea-pigs and frogs there is not a preliminary stage of excitement which has been frequently observed in workmen exposed to the fumes of this substance. The period of depression is marked in these animals, as in man, by symptoms of paresis, which are sometimes general over the whole body, and at other times take the form of paraplegia. In frogs particularly, the motor paralysis tends to become general and complete; not only does the animal become incapable of making the slightest voluntary movement, but even the strongest irritations fail to excite the slightest reflex movement in the muscles of the limbs or trunk. The pupils preserve their contractility. 3. After death, the auricles are found to be distended with blood of a very dark colour, and in the lungs are scattered patches of congestion. 4. Examined microscopically, various changes are seen in connection with the nervous system. A diffuse general softening takes place with dissociation of the nervous tissue, owing to an almost complete escape of the myelin contained in the nerve-tubes. 5. In certain of the animals ex-

perimented on, embola were found blocking up cerebral arterioles. These embola consisted of drops of a fluid which did not mix with the blood, and which had all the characters of bisulphide of carbon. Absolute proof of its identity was, however, not obtained.

3. *Marchand on Poisoning with Chlorate of Potassium.*—In fatal cases of poisoning with chlorate of potassium, as well as in animals killed by an overdose of that salt, Marchand shows that the blood has undergone a peculiar modification, which he holds to be the immediate cause of death. The blood in such cases becomes of a dark reddish-brown chocolate colour, and loses its power of taking up oxygen. The hæmoglobin becomes decomposed, and the blood-corpuscles thus destroyed are in part accumulated in the spleen and in part excreted by the kidneys. The substance which gives the brownish colour to the blood in such circumstances, is found by spectroscopic analysis to be identical with Hoppe-Seyler's methæmoglobin. The kidneys are of a dark-brown colour, all the tubules being filled with brownish cylinders of almost homogeneous structure composed of broken-down blood corpuscles. There is slight degeneration of the epithelium, but the stroma is unaffected.

4. *Oltramare on the Physiological Action of Salicylate of Soda.*—Oltramare has made a large number of experiments on the physiological action of salicylate of soda. Introduced directly into the veins, this substance invariably increases the blood-pressure, the number of pulsations, and the systolic force of the heart. This action is transitory, and is probably due to direct irritation of the heart and also of the motor centres. At the same time the rapidity of the blood-current increases, owing to vascular dilatation, and this action is much more lasting. With repeated doses the excitability of the heart diminishes, and with lethal doses the pulse becomes irregular, intermittent, the blood-pressure falls, and finally the animal dies of paralysis of the heart. After death one finds intense congestion of the abdominal viscera.

5. *Ringer and Murrell on the Antagonism between Pilocarpine and the Extract of Amanita Muscaria.*—Ringer and Murrell show that pilocarpine, a sweater and salivator, which slows or arrests the frog's heart, antagonises, as regards the heart, the extract of *amanita muscaria* (muscarin), a substance which is also a sweater and salivator, and retards and also weakens or arrests the frog's heart. In this respect pilocarpine is but little inferior to atropia and duboisia.

J. GRAHAM BROWN, M.D.

ANATOMY.

RECENT PAPERS.

1. *AEBY, C.*—Die Muskulatur der Menschlichen Mundspalter—The Muscles of the Human Mouth. (*Arch. f. Mikros. Anat.*, xvi Bd., 4 Heft.)

2. *AEBY, C.*—Die Altersverschiedenheit der Menschlichen Wirbelsäule—The Modifications of the Spinal Column in Old Age. (*Arch. f. Anat. und Phys.*, Heft 1 and 2, 1879.)

3. *Acardiac Foetus*—Reported by Vienna Correspondent. (*British Med. Jour.*, August 23rd, 1879.)

4. *BACHHAMMER, J.*—Über einige Varietäten des Menschlichen Körpers—On some Variations in the Human Body. (*Arch. f. Anat. u. Phys.*, Heft 1 and 2, 1879.)

5. *BROCK, G. S.*—A Two-headed *Sartorius*. (*Four. of Anat. and Physiology*, vol. 13, p. 578.)

6. BRUCE, J. M.—On Supernumerary Nipples and Mamms. (*Jour. of Anat. and Phys.*, p. 425, 1879, vol. 13.)

7. DAVIS, W. G.—Contributions to the Minute Anatomy of the Liver. (*Am. Jour. of Med. Sci.*, p. 128, July 1879.)

8. FICK, A. E.—Ueber Zweigelenkige Muskeln.—On Muscles Acting on Two Joints. (*Arch. f. Anat. u. Phys.*, Heft 3 and 4, 1879.)

9. FICK, A. E.—Zur Entwicklungsgeschichte der Rippen und Querfortsätze.—On the Development of the Ribs and their Oblique Position. (*Arch. f. Anat. u. Phys.*, Heft 1 and 2, 1879.)

10. GARSON, J. G.—Inequality in Length of the Lower Limbs. (*Journal of Anat. and Phys.*, vol. xiii, p. 502.)

11. GARSON, J. G.—The Arrangement and Distribution of the Muscular Fibres of the Rectum. Read at the meeting of the British Medical Association, Cork, 1879. (*British Medical Journal*, September 6, 1879.)

3. *An Acardiac Fœtus*.—The case was one of twins, the other twin being healthy and well developed. It was an irregular mass, weighing about one and a half to two kilogrammes, covered with epidermis, and presenting at one part a quantity of hair—apparently the scalp, though no proper head could be said to exist. Just in front of this hairy region were two round discoloured projections; and, again, just in front and between these was the insertion of the cord. At each extremity of a more or less crescentic mass was a projection, each with several subdivisions; these were apparently the upper and lower extremities. On further dissection of the fœtus it was seen that the right projection corresponded to one upper extremity; the left to a lower. There was a partially developed cranium, but not quite corresponding to the hairy region. The larger projecting sac, about the size of a walnut, was found to contain about half of the intestines, the remainder forming a little knot just inside the abdominal cavity, which was filled with a discoloured serous fluid. The other projection contained a viscid dark brown fluid; and the walls of the sac were much thicker than those of the other; it apparently represented the liver. There were a well developed spinal column, rudimentary ribs, and a more or less complete pelvis. At the upper end of the trunk could be seen a single capsule; the corresponding one of the other side was absent. In the extremities were well developed blood-vessels. There was no trace of a heart to be discovered. At the lower part of the abdomen was a large sac, evidently the urinary bladder. On each side above this were two bodies, probably either testes or ovaries. The mass was of the normal colour of the newly born infant, showing that it must have lived till the time of birth. The following was the theory put forward by Czernowitz, to explain how it lived and the circulation was maintained. One fœtus, A, is considerably more developed than the other, B, and consequently A's heart beats much more strongly than B's. There is a free communication in the placenta of the blood-streams from the umbilical arteries of the two fœtuses. A's heart is much more powerful than that of the other, and so the blood-stream of the former overpowers that of the latter and changes its direction. Thus the blood that leaves A's heart passes down the aorta through the hypogastric and umbilical arteries to the placenta into the umbilical arteries of B, up the aorta, and so to the heart. But naturally it closes the aortic valves, and so B's heart is shut off from the circulation, and quickly atrophies and in a short time disappears. In A, the healthy fœtus, the umbilical arteries carry venous blood, and the umbilical vein arterial blood as usual. Whereas in B the whole course of the circulation is reversed; the

umbilical arteries receive arterial blood, and the umbilical vein returns the impure blood to the placenta.

5. *Brock on a Two-Headed Sartorius*.—In a dissection of Scarpa's triangle, made in the University Anatomy Rooms, Edinburgh, an anomalous muscular slip, fully 6 millimètres in thickness, was observed running down the centre of the space, close to the outer side of the femoral artery, and blending with the main fibres of the sartorius in their lower third. It was connected above with a distinct flattened tendon nearly 6 millimètres in diameter, which, on being traced upwards, was found to take its rise from the ilio-pectineal line external to the pectineus muscle, between it and the psoas. From this attachment the narrow tendon passed downwards and outwards over the psoas muscle behind the internal circumflex and femoral vessels, emerged at the outer side of the latter just below and in front of the origin of the profunda artery, and terminated in a fleshy belly, having the course and destination described. The tendon was about 7.6 centimètres long.

6. *Bruce on Supernumerary Nipples and Mamms*.

—In this paper the writer confines his remarks to his own observations, as a very full account of the literature of the subject has already been given in a paper by Professor Leichenstein of Tübingen, in Virchow's *Archiv*, for June 1878, entitled, "Ueber das Vorkommen und die Bedeutung supernumerärer (accessorischer) Brüste und Brustwarzen." There is an account of the absolute number of instances in which the author has found these abnormalities, along with a table setting forth the chief features of each. An analysis is made of this collection, as regards the number, situation, subjects, etc., of the abnormality. The results are given of a special series of observations made to determine accurately the frequency of occurrence of supernumerary nipples amongst all persons taken indiscriminately, and of calculation made from the preceding series of the relative frequency of supernumerary nipples in men and in women. An account is given of the appearance of some of these abnormal bodies, and of the varieties of them that are met with. The subject of their functional activity is noticed, the question of inheritance of the abnormality is briefly discussed, the conditions found associated with supernumerary nipples is referred to, and lastly, the occurrence of the abnormality in extraordinary situations is described. The following is a general summary of the investigation. 1. Sixty-five cases of supernumerary nipple were observed within a period of three years. 2. Of 315 individuals taken indiscriminately and in succession, 7.619 per cent. presented supernumerary nipples. 3. Of 207 men examined in succession, 9.11 per cent. presented supernumerary nipples; and 4.807 per cent. of 104 women. 4. In the great majority of instances the supernumerary nipple was single; that it was without exception situated on the front of the trunk, below and within the line of the ordinary nipple, and more frequently on the left side than on the right. 5. The distance of the supernumerary nipple from the ordinary nipple was very various, and that from measurements of these distances a series of numbers may be obtained which may possibly suggest the unit of distance between the successive pairs of nipples in the original type. 6. A supernumerary nipple, though frequently well-marked, is more frequently small or deficient in one or more of its elements—papilla, areola, follicles, or hairs. 7. In no case was the supernumerary organ physiologically active; but that in a few cases supernumerary glands appeared to be present (in single

women). 8. Inheritance was not traced in any instance. 9. In more than one instance the anterior abdominal wall was the seat of the abnormality. Regarding the significance of these abnormal developments, the author agrees with what Mr. Darwin has said: "On the whole, we may well doubt if additional mammae would even have been developed in both sexes of mankind, had not his early progenitors been provided with more than a single pair."—*Desc. of Man*, 1877, p. 37 note.

7. *Davis on the Minute Anatomy of the Liver.*—The author first gives a few directions regarding injections. The principal vessels to be injected are the venous, arterial, and biliary capillaries. In injecting any of these, the liver must always be kept warm and moist, and its surface should not be exposed to the air. In hardening specimens, Müller's fluid or alcohol may be used, the former with uninjected specimens, or those injected solely with Prussian blue, as it destroys the colour of carmine. Specimens injected with carmine should be put into weak alcohol, to which a small quantity of acetic acid has been added. Specimens stained with nitrate of silver should be rapidly put into a freezing microtome, and after the sections are made they may be exposed to the light. The fluids used for injecting are of two kinds—gelatine masses and cold flowing liquids. For the blood-vessels, a solution of gelatine is best; this may be coloured with carmine, Prussian blue, or chromate of lead. For the bile-ducts, a watery solution of Prussian blue may be used. The blue used by the author was a washing blue called "cream indigo". To demonstrate the epithelium of the blood-vessels, these should be injected with .25 or .5 solution of nitrate of silver. The hepatic cells, the author finds, are rounded in from lying embedded in the vascular and biliary capillary network. Their form is dependent on the amount of pressure in the blood-vessels; when the latter are empty, the cells are round; when they are distended, or when the cells touch each other, they are flat, and when the cells touch the blood-vessels they are indented. Excessive vascular distention causes the cells to appear as narrow bands of granular matter. They do not possess cell-walls, as asserted by some observers. The author has not been able to confirm the observations of Kolatschewsky, that the substance of the cells is continuous with the bile capillary walls.

In injecting the venous capillaries the hepatic vein should always be chosen, as injecting from the portal vein always exposes the organ so much that the injection is only partial. The method of injecting from the hepatic vein is as follows. An incision is made in the right lumbar region of an etherised animal, and the ascending cava is ligatured just below the edge of the ribs. The incision is then closed with two or three stitches. A large piece is next removed from the right thoracic walls. The hepatic vein is now seen coming from the diaphragm. A clip should be put on its diaphragmatic extremity, and a ligature on the cardiac extremity; this prevents blood coming either from the heart or the liver. The vein may now be divided between the clip and ligature, a cannula inserted and tied in it. The injecting syringe being filled, the cannula should be cleared of blood-clot with a wire. The clip is now removed, and as the blood oozes out the syringe is inserted and the piston pressed; this drives the blood out of the liver into the intestines. When the organ has been thoroughly injected, the portal and hepatic vein must be ligatured. The liver may then be removed from the body of the animal.

Regarding the distribution of the hepatic artery, the author believes that it ends in the periphery of the lobule, and demonstrates this by ligating the abdominal aorta and vena cava, and throwing an injection into the thoracic aorta of a cold flowing blue mass, the hepatic vein being previously compressed by means of a clip. When the aorta has been injected and ligatured, the clip is removed from the hepatic vein, and a red gelatine mass injected downwards. As the red liquid flows into the vein it meets the blue from the artery. The latter remains in those capillaries which are purely arterial. The liver may then be removed from the animal. In a preparation made in this way the artery is seen breaking into capillaries on the border of the lobule and anastomosing with the vein.

To study the hepatic duct, it is desirable to have the blood-vessels injected. After this has been done as detailed for the portal and hepatic veins, and the vessels having been ligatured, the liver is to be placed in a receptacle with warm water. The ductus communis choledochus should be tied, and a cannula inserted into the gall-bladder. The organ may now be injected with a syringe or by means of constant pressure of a column of liquid, or by atmospheric pressure; this last is the best method. When it is used, the dish containing the liver is placed under the bell of an air-pump, with a tube passing through an air-tight cork in the glass bell from the cannula. The distal end of the tube is immersed in the injecting fluid, and the air exhausted from the glass bell. The injection is allowed to flow very gradually into the liver, till the gall-bladder is moderately distended. In this way the artery, veins, and duct, can be injected. The author believes that Schmidt and Budge's view regarding the termination of the bile-ducts is the correct one, namely that the bile-capillaries are a distinct system of vessels with walls of their own, and not the result of forced injections, and he has been able to trace natural communications between the bile-ducts and the capillaries. He has also traced the injection in a capillary; and has seen it cease, while the capillary was continued as a colourless line. The injected capillaries he has sometimes seen projecting beyond the edge of the cells, and also at times clinging to their free sides. This appearance would be impossible with no true walls. When the injection has been more forcibly pressed in, the bile-capillaries, instead of being straight as usual, are convoluted and tortuous. The author does not believe that there is a natural communication between the lymphatics and the bile-capillaries, as stated by Schmidt. The true connective tissue of the liver is very scanty in quantity, and consists only of fine fibrils passing from one blood-vessel to another, and some which adhere to the sides of the vessels. What is usually termed the intralobular connective tissue, he finds can be demonstrated to consist almost entirely of blood-vessels. There is no basement-membrane existing between the hepatic cells and the walls of the blood-vessels. He was unable to find lines going inwards to indicate the course of the deep lymphatics of the liver. The paper is freely illustrated with woodcuts, and is altogether one of considerable interest.

10. *Garson on Inequality in Length of the Lower Limbs.*—The asymmetry of the lower limbs in living persons has been very fully and satisfactorily proven by Dr. Wight, of Brooklyn, and his results have been confirmed by Dr. Cox, of New York, who curiously enough investigated the subject independently and almost simultaneously; but whose paper appeared

after that of Dr. Wight. It had not, however, been shown whether the asymmetry was due to unequal development of the bones or of the soft parts. To ascertain this point, Dr. Garson made an extensive series of measurements of the bones of the lower extremities of skeletons in the museum of the Royal College of Surgeons of England. The results of his measurements show that the combined lengths of the femur and tibia on one side of the body are seldom the same as the combined lengths of those bones on the other side. He found that in 10 per cent. only are the right and left limbs equal. This corresponds very nearly with the results obtained by Dr. Wight from his measurements of the limbs of living persons. In the majority of the cases where the limbs were equal they were so by compensation, that is, by the tibia being shorter when the femur was longer, and *vice versa*. In 35.8 per cent., the right limb was found to be longer than the left, the average preponderance of the former over the latter being 3.3 millimètres. In 54 per cent. the left limb was longer than the right, and its average preponderance over the right was 4.8 millimètres. The left leg, therefore, is not only more frequently longer than the right, but the difference between the length of the limbs is greater, generally, when the left is the longer. Regarding the lengths of the individual bones, the author finds that the left femur is in 58.5 per cent. longer than the right, its average preponderance being 3.8 millimètres; in 28.8 per cent. the right is longer than the left, its average preponderance being 2.9 millimètres; and in 12.9 per cent. the bones are equal. Again, in 34.2 per cent. the left tibia is longer than the right, the average preponderance being 3. millimètres; in 41.4 per cent. the right is longer than the left, the average preponderance being 2.6 millimètres; in 24.2 per cent. the bones are equal. While the left femur is, therefore, the longer, the left tibia is usually the shorter. In this way there is, in some cases, a certain amount of compensation, although it is often found that where the femur of one side is longer than that of the other, the tibia of the side on which the femur is the longer is often also the longer. The inequalities of the limbs do not seem to be confined to any particular age, sex, or race. Altogether the results obtained by the American surgeons are entirely confirmed by Dr. Garson's observations on the bones.

11. *Garson on the Arrangement and Distribution of the Muscular Fibres of the Rectum.*—In this paper the author showed that the rectum and bladder are united together by the longitudinal-muscular fibres of the gut. The distance that the bladder and rectum are adherent may be divided for purposes of description into two parts, an upper and a lower. Of these the upper is the longer. Here the two organs are united only by areolar tissue, and can be easily separated from one another; but at the lower part, the anterior longitudinal fibres of the gut, which are closer together on this than on other parts, as they pass down over the front of the rectum, are reflected (in the same way as the peritoneum) from it to the bladder, and are distributed over the posterior surface of that viscus. The rectum and bladder are, therefore, firmly bound together, not only by areolar tissue as is usually stated in anatomical works, but also by muscular fibres. For those fibres, Dr. Garson has proposed the name of recto-vesical fibres. He has been unable to find them described in the principal anatomical works on the bladder and rectum.

J. G. GARSON, M.D.

PSYCHOLOGY.

RECENT PAPERS.

1. BENTON.—On Dipsomania in its Medical and Legal Aspects. (*Practitioner*, June 1879, p. 405.)
2. KROEMER.—On Temperature in General Paralysis of the Insane.
3. RÉGIS.—On the Dynamia or Functional Exaltation at the Outset of General Paralysis. (*Annales Med. Psychol.*, Sept. 1879.)
4. SAVAGE.—On some Uncured Cases of Insanity. (*Guy's Hospital Reports*, vol. xxiv.)
5. STÜLER.—On the Action of Chloral.
6. WRIGHT.—On the Responsibility of the Partially Insane.
7. AYER, J. B.—On Cases of Insanity following Acute Diseases. (*Med. Communicat. Mass. M. Soc. Boston*, 1879, 2 s., viii, 301-311.)
8. BRAUNIS.—Les Maladies de l'Esprit, d'après M. Maudsley. (*Rev. Scient. Par.*, 1879, 2 s., xvii, 49-53.)
9. LINDSAY, W. L.—On Rib-fracture in English Asylums. (*Am. J. Insan.*, 1879-80, xxxvi, 28-49.)
10. OLMSTEAD, J.—On Mortality of the Insane. (*Proc. Connect. M. Soc. Hartford*, 1879, lxxxviii, 122-129.)
11. SCHWARTZER, F.—Die Thermische Behandlung der Maniakalischen Phase der Psychoneurose. (*Pest Med. Chir. Presse, Budapest*, 1879, xv, 604-606.)

1. *Barton on Dipsomania in its Medical and Legal Aspects.*—A very able paper upon this subject, from the pen of Mr. J. Kingston Barton, while exposing the crying evil of our laws in not allowing us to control the *de facto* lunatics, offers valuable suggestions for carrying out efficient treatment in retreats and otherwise. Three years' seclusion are, according to Mr. Barton, necessary to cure a dipsomaniac of his disease. Dipsomania is a disease of army and club life, and greatly owes its existence to champagne. In the navy there is more drunkenness, but not so much dipsomania as in the army. Diabetes insipidus is, perhaps, not an uncommon cause of dipsomania. Drunkenness is distinguished from dipsomania by the possession of a moral sense in those who indulge in the former vice, which is generally absent in dipsomaniacs. As regards treatment, bromide of potassium holds the foremost place. The paper is well worthy of a careful perusal.

RICHARD NEALE, M.D.

2. *Kroemer on Temperature in General Paralysis of the Insane.*—Dr. Kroemer relates in full his observations of temperature in thirty-four cases of general paralysis, side by side with the history of each case. The author believes that the temperature in this disease has never before been regularly taken for successive months and years. In all, eleven thousand observations of temperature were made by him. The following are the conclusions at which he arrives. The prevailing temperature in this disease is, on the average, lower than that of a healthy person. The temperature-curve exhibits characteristic undulations; the longer waves, with slight daily variations and greater regularity, correspond to a greater degree of psychic rest and a more placid mental condition; they are observed in the melancholic, tabetic, and "stupid" forms of the disease; the shorter waves, with greater daily variations, correspond to paralytic attacks, which may consist in convulsions, mental excitement, or temporary exacerbations of both the psychic and the motor disturbances.

In the last stage of general paralysis the temperature is, on the whole, higher than before, but exhibits very marked fluctuations with great daily variations. As a rule the temperature shows a decided fall, one, two, or three days before the occurrence of a convulsive seizure; it always falls rapidly during the first few minutes of the attack, but rises again as rapidly, after about a quarter of an hour, to considerably above its original level. The temperature is higher in those cases in which the paralytic symptoms preponderate; also in those in which, owing to paralysis of the vascular walls, considerable stases are present in the circulatory system.

3. *Régis on the Dynamia or Functional Exaltation at the Outset of General Paralysis.*—At the end of a long paper, illustrated by numerous cases, M. E. Régis gives the following conclusions as the result of his observations. General paralysis very often commences by a stage of functional exaltation, during which the functions of the organism undergo, either simultaneously or separately, an increase of activity. This functional exaltation is the result of irritative action in the brain, to the extent and intensity of which it is in exact proportion. Whatever function may be affected, the phenomena of exaltation make themselves evident by their intensity, persistence, and almost constantly impulsive nature. Notwithstanding this, the functions never exhibit apparent fatigue. Intellectual exaltation attacks chiefly those predisposed to it by their origin, education, or profession; it is manifested by an incessant and irresistible tendency to intellectual acts; in certain cases it is accompanied by a more or less marked exaltation of the affective faculties. Physical exaltation, not less frequent, mostly affects the locomotor functions; incessant and irresistible desire of movement is its chief characteristic. Persons who are the subject of it make repeated attempts at escape if they happen to be confined in an asylum. Sexual excitability presents the same characters as to frequency and its irresistible nature. The patients experience immoderate and insatiable desires, and are deterred by nothing which stands in the way of their indulgence. Some patients, who have hitherto been most moderate, give way at this time to great alcoholic excess. This is most often due to the general desire for action, and very probably also to irritation of a special part of the brain. The organs of vegetative existence also share in a greater or less degree in this hyperactivity. Temperature may attain to a maximum of 101.3; the pulse to 100, and the respiration to 40 (!). Appetite and thirst may be similarly augmented. The amount of urea contained in the urine is not sensibly altered, but a certain quantity of glucose may be present, owing to irritation of the glycogenic centre. The study of this prodromal period of exaltation in general paralysis is of importance, as facilitating diagnosis at an earlier period than has hitherto been practicable, and thus possibly modifying the prognosis of a disease which has hitherto been regarded as incurable, perhaps because it has at present only been recognised and treated at a period long subsequent to its true commencement.

4. *Savage on some Uncured Cases of Insanity.*—Dr. G. H. Savage analyses the cases which have been discharged uncured from Bethlehem Hospital during the past three years, after a residence there of at least twelve months. Excluding undoubted cases of general paralysis, these amount to 205. Short histories of a number of the cases are given; they are arranged in groups, illustrating various propositions concerning the causes and prognosis of mental

disease. Accompanying each case, or series of cases, are the results of the author's observation and experience on the points involved; the more interesting and original of these will be here noted. In examining lists of *uncured* patients, it is remarkable what a large number of the cases can only be described as "delusional", and cannot be placed under the ordinary heads of mania, melancholia, and dementia; and yet in ordinary classification in this country this important group of cases is almost disregarded. As regards prognosis, age is of course a most important factor. Recovery from a severe attack of insanity under the age of 15 is rare. If the development of the nervous system be checked before maturity, the result is almost certain to be bad. After puberty prognosis is better; but a great number of cases between 20 and 25 must be regarded as unfavourable. Under the head of senile insanity, mania furnishes the most cures, but also more cases of sudden exhaustion and death, or rapid mental destruction; melancholia is very common and obstinate; general paralysis, as seen in early manhood, is not common; but there is an equivalent in a rapid senile dementia, associated at first with excitement, exaltation, and sexual desire. These cases resemble general paralysis in many points; thus: the cause is usually excess (*e.g.*, late marriage, abuse of stimulants); the symptoms are at first maniacal with exhaustion; the end is dementia and death. It is generally believed that if a person come of an insane stock his chances of recovery from an attack of insanity are lessened; Dr. Savage, while recognising that simple inheritance of insanity or of neuroses has a great influence in producing insanity, and that idiocy or imbecility may arise in consequence, states his belief that if the person of insane stock is not attacked before puberty, he or she has a rather better prospect of recovery, at least, than a person without such inheritance. Such people are to be regarded as in a state of unstable equilibrium, easily upset and easily reset. It takes a more severe shock to upset a man than a woman, and the former is less easily restored. The variety of insanity in the parent certainly affects the offspring, and this is seen markedly in suicidal cases. Melancholia generally is a common transmission, associated frequently with the dark skin, dark hair, and sluggish habit which so often accompanies it. The premature and precocious child is often the offspring of insane parentage. It would not be safe to say that because one brother suffering from melancholia gets well rapidly, therefore a sister will recover equally well. Instances are given in which parents have first become insane after their children; also cases of patients having begotten idiots or epileptic children years before they themselves became insane. Similar forms of insanity may occur in members of the same family, though there be no history of inherited neurosis; in such cases, if one is incurable the other will probably be the same. The author was surprised to find that the larger proportion of his uncured cases came under treatment fairly early, most of them within six months of the onset of the symptoms. There are many cases which are incurable from the commencement, but we are unable at present to lay down definite laws which will include them all. The duration of an attack of insanity is usually wrongly given in the first instance: most careful inquiry should be made upon the point, for the period of *malaise* and depression which generally precedes active insanity must all be taken into consideration, and the prognosis is usually bad in insane persons who have been *changed in character*

and habits for twelve months. Most persons who fancy their souls are lost have been for years indulging in unhealthy religious excitement or morbid religious views. This is only one instance of many in which a new and false mental structure has grown slowly and become too strong to be upset. Among exciting causes of insanity in early life, masturbation and sexual excess produce cases of a very bad type. There is a tendency to look upon these as very common, and to mix up a cause with a symptom, but there is no doubt that the prospect is dark when excess of this kind is largely indulged in by young persons who are insane. The uncured cases of this kind divide themselves into those who have quite exhausted themselves, and those who, having weakened themselves, seem to suffer most from the moral shock and loathing of a habit that has become irresistible. Mental symptoms following upon late marriage in men afford likewise an unfavourable prognosis. With reference to the idea that nearly all puerperal cases get well, the writer gives instances to the contrary, and says that in his experience at least one quarter remain uncured. If insanity be produced in a man solely by a moral cause, his prospect of recovery is small, either from the force of the blow or from the weakness of the recipient. We are told that the great part played by phthisis in insanity is not yet fully appreciated. If a neurotic stock be grafted on to a phthisical one, the result is doubly bad; the phthisis is intractable and the insanity rarely curable: in some families the members who are not insane are phthisical; in others the double taint is transmitted. Over-work, unless associated with age or over-stimulation, rarely produces grave insanity. By over-stimulation is meant the drawing on nervous capital by the aid of stimulants, or, still worse, the habitual use of narcotics to produce sleep and thus enable the patient to continue working. Patients over 50, suffering from nervous exhaustion due to this cause, rarely recover. The prognosis in cases of insanity resulting from intemperance is the same as that in all other conditions related to drink; they will be cured over and over again, but eventually become incurable. When syphilis is the undoubted cause of insanity it often improves the prognosis, but care must be taken to distinguish cases of general paralysis, which, with or without sufficient ground, are often ascribed to syphilis. In epilepsy the mind is more rapidly destroyed in younger persons, and by the less grave and more frequent fits. Insanity due to apoplexy, usually occurring after 50, is unfavourable. Dr. Savage has only rarely seen mental trouble follow hemiplegia due to any other cause than hæmorrhage. Insanity due to blows on the head is unfavourable if these be the *predisposing* cause. When a *severe* blow leads to insanity, whether there be inheritance or not, the chances of recovery are small; whereas if a *slight* blow produces insanity in a highly *predisposed* person, recovery is probable. The author is sure that a certain number of general paralytics owe their disease to injuries to the spine or head. The prognosis is bad in all cases of insanity secondary to other marked disease of the nervous system. Three cases of ovarian dropsy with insanity are mentioned; one improved mentally, but died after tapping; the other two remained melancholy to the end. If diabetes be a nervous disease, it is strange that sugar in the urine of the insane should be so extremely rare as Dr. Savage believes it is. Among moral causes of insanity the writer regards sudden shocks, such as fright, as among the most grave,

especially when occurring in the young. Grief has often specially evil effects; the widow's insanity is a very dangerous one, and worst of all after 40 years of age. The author concludes by tabulating the symptoms which have struck him as of unfavourable omen in insanity. Some of these are already well-known, but a few may be quoted here: fatness; voracious and morbid appetite, eating fæces; great sleepiness, and profound sleep that seems unrefreshing; marked changes in the skin, *e.g.*, congestion and thinning; complete solitariness and self-absorption; complete change in habits and temper; unreasonable content and discontent; hypochondriasis; feeling as if not human; feeling criminal, or only fit for prison; hallucinations; "surrounded by invisibles;" tempted or influenced; mistakes about sex and persons.

C. S. W. COBBOLD, M.D.

5. *Stüler on the Action of Chloral*.—Dr. Stüler delivered a lecture at the annual meeting of the alienist German physicians, at Heidelberg, September 1879. He said: "In these cases some interesting observations were made regarding changes of blood, and throwing doubt on the efficacy of many of the ordinary preparations in use. R. D., a strong girl, aged 25, began to suffer from hallucinations at the end of October 1878. She soon grew so excited that her removal to the Basel Asylum became necessary. She was thence removed, in an almost raving condition, to the Heidelberg Lunatic Asylum. As this patient disturbed the others too much by loud songs and speeches, even in the night, two grammes of chloral hydrate in a solution of water were administered to her every evening. The dose was frequently discontinued for a long time, especially during her periods of menstruation. She then refused either to take the medicine, or the latter remained without effect if given by force. She shrieked and sang so loud, and created such a disturbance, that she had to be isolated during the night. On the 23d June, at half-past eight in the evening, the patient took her usual dose of two grammes of chloral again. Shortly afterwards her face became highly flushed, and she spoke very animatedly while undressing herself, but after breathing deeply a few times she died immediately on getting into bed, twenty minutes after taking the medicine; and all attempts to reanimate her were quite fruitless. The dissection by Professor J. Arnold gave the following results. The blood was strikingly dark, dull red, and nowhere coagulated. Similar conditions of the blood, after doses of chloral varying in strength, had before been observed, amongst others by Richardson, Norris, Smith, Pollack, Aug. Frank, and especially Jolly. To the kindness of the latter I owe an epistolary communication of two cases. He writes: 'In all cases the blood was dark, dull red, with scarcely any tendency to coagulation, like that in corpses of the suffocated.' Falk, especially, has observed similar phenomena in animals. At the necropsy of the case, the perfectly fluid blood of the heart was submitted to Privy Councillor Kühn for analysis. Nothing was visible with the microscope, but after a few days some coagulation took place. The addition of fluids effecting coagulation, *e.g.*, the blood of rabbits, produced immediate coagulation. The fibrino-plastic substance, therefore, apparently existed in the blood; the fibrinogen, however, was at least very much reduced. On the recommendation of my principal, Professor Fürstner, I commenced a series of experiments. I extracted from a number of persons, steeped in chloral sleep, who had taken chloral regularly (some even doses of 2 grm. during varying periods, extending

even to months), small quantities of blood by means of cupping. Nothing abnormal was visible under the microscope, and the experiments were without results in all respects, as the blood simply coagulated. Experiments on dogs were equally fruitless. I wish to call particular attention to another attribute of the chloral, which is little regarded in practice. I allude to the decrease of the temperature which takes place after this medicine is taken. In shorter treatises on this remedy, nothing is mentioned of this quality. I entirely agree, however, with the statements of Husemann, Nothnagel, and Hermann. Sleep-producing doses of 2 or 3 grammes reduce the bodily temperature from 0.6 to 0.9 degree Cent. The reduction in an old emaciated woman, however, amounted to 1.1 degrees Cent. several times. These facts suggest the need of care in the treatment of old decrepid subjects, and of persons with weak and irregular action of the heart. I observed in dogs, after relatively considerable doses of 1.5 to 3 grammes of chloral, a reduction of the bodily temperature of 6 and 7 deg. Cent. without causing death. Falk observed similar results in his extremely exact experiments." Stüler then adduced another case of chloral poisoning. Mrs. E., a robust, corpulent woman, aged 40, who had been in the Illenau Asylum on account of alcoholic excitement eight times since 1867, became ill again and arrived in the Heidelberg Asylum, 15th May. Being enfeebled by sleeplessness, she took, in a quarter litre of white wine, 2 grammes of chloral in the evening. On the 21st, being the seventh day, she had taken the same dose at half-past eight. This patient also had violent congestion in the head; she spoke very animatedly, jested with the attendants while sitting in bed, but, suddenly falling backwards, expired after a short rattling in the throat, half an hour after taking the medicine. In this case, also, the *post mortem* examination showed no anatomical cause of death, except moderate cedema of the pia mater. I cannot speak with certainty as to the condition of the blood, because the autopsy was made in the dissecting room. I was only astonished at the great quantity of dark blood which flowed from the cavity of the skull when I took out the brain several hours before the dissection commenced. The analogous phenomena exhibited whilst dying, and the absence of any anatomical cause of death, induced us immediately to ascribe the latter to the chloral in this case also, especially as we had formerly observed other bad qualities of this preparation, but which we had not had any opportunity of seeing since we employed the Liebreich preparation of Schering's factory. I allude to the early appearance of conjunctivitis, the raving after a few doses, which rarely exceeded 2 grm. daily, and this in persons who never took alcohol further. A characteristic odour was soon noticed in the breath of the respective patients. The preparation was bought of Merk of Darmstadt, by the Heidelberg Spital apothecary. The latter asserts that it was in accordance with the requirements of the Pharmacopœia, especially according to the reactions given therein. The price for it, however, is only 7s., but that of Liebreich 9s. 6d. per kilogramme. Cheaper preparations than the latter are, therefore, sold, which are in accordance with the chemical and physical actions required in the Pharmacopœia, but the use of which is, nevertheless, unsafe, dangerous and, therefore, not advisable. The chloral should consequently be of the first quality, and bought only of well-known and good makers. The physician also ought to instruct the apothecary to send only the best quality. This alone can pre-

vent such sad events as those before mentioned, and also prevent discredit being brought on the remedy *in toto* by ascribing to it the dangerous qualities of the bad preparations.

6. *Wright on the Responsibility of the Partially Insane.*—Dr. Wright of Bellefontaine begins a paper on this subject by discussing exhaustively the nature of will, and the various views which have been held regarding it. He combats the idea, which he says obtains in legal circles, that a man cannot be considered insane unless his power of will is wholly or partially wrecked. The following are mentioned as proving the contrary: (1.) Idiocy, by deprivation of the senses. (2.) Melancholia, with some fixed idea, which, by reason of its pertinacity, so completely occupies the attention as to prevent the reception of other ideas; thus, any correct process of reasoning is hindered, choice and adoption are out of the question, and an act of homicide by such a mind could not be occasioned by a defect in will, because the function of will is not called into activity unless reason presents alternatives for choice or avoidance. (3.) Cases of mania in which ideas succeed each other so rapidly that comparison and judgment are likewise impossible. A sententious description or definition of the unsound mind is said to be impossible. It is manifestly absurd to classify insanity as (1) intellectual, (2) moral, and (3) volitional, and then to claim that all insanity springs from some defect of will. In many cases of insanity, with delusions or hallucinations, the operation of will impelling insane minds to the commission of insane acts is evidence that such will is sound, and not in any manner impaired. Will is but one function of the mind; it is that function which is most frequently the object of perception to other minds, but it does not follow that it is more important or more frequently exercised than other mental acts. The same power goes out in will as in every other mental act, and the idea of imperfection in one mental function is inseparable from the idea of imperfection in all. Weakness and imperfection of will in many of the insane is of course not denied, but a protest is entered against making the phenomena of will the only elements by which the presence or absence of insanity may be judicially determined. The mind, as a unit, being in disorder, there is no mental function, whether of intelligence, susceptibility, or will, which may not at any moment become involved in the insane congeries of acts pertaining to its special nature. Between true sanity and undoubted insanity there is a vast area occupied by a multitude of men and women, varying in the degree of their mental unsoundness. Probably the majority of these pass through life unquestioned as to sanity; others, with minds not more unsound, by reason of unfavourable circumstances, become so involved that the infirmity of their minds is developed into convulsive activity, and leads to disaster. The degree and nature of the responsibility of these persons present questions of much difficulty. Some appear to hold that the partial manifestation of insanity, as in monomania, is the result of the disease of part of the brain only, the rest being sound in structure and function. Popular notions of phrenology, 'bumps' and 'organs', have tended to strengthen this mistaken opinion. The valuable results obtained by Fritsch, Hitzig, and more especially Ferrier, with regard to localisation of brain-functions, have been erroneously supposed to support the same view. It is pointed out that, notwithstanding the distinctness of motor and

sense-centres, these avail nothing, of themselves, towards the establishment of the reasoning process. Metaphysicians are unanimous that all operations of the mind are exponents of the whole mind. From various considerations the author deduces that "as the facts upon which rational acts are predicated, are in the partially insane not so clear as those are in the sound mind, it would be illogical and unjust to impose the same measure of accountability upon the partially insane that is demanded of the sane mind." He tells us that in the monomaniac there is responsibility in degree and kind, but it is never the degree or kind of responsibility that is attached to sanity. Intelligence is said to be the true measure of responsibility. Although the criminal act of a monomaniac may, so far as is known, have no relation whatever to the known circle of his insane ideas, yet ordinary responsibility cannot attach to it. The monomaniac is insane upon all subjects upon which, in the energetic sense of the word, he *thinks*; of course a great portion of his mental acts are, as in the sane, simply automatic and proceed from habit. The author's conclusions are these. 1. The partially insane are always responsible. 2. They are never responsible in an equal degree with the sane. 3. They cannot justly be held responsible in the same manner or kind in which persons of sound mind are held. 4. As a corollary from the above conclusion, it is alleged that it is the duty of the State to provide a place of confinement for the criminally insane, different from gaols and penitentiaries, and different also from the ordinary insane asylums. It is a pity, however, that the writer does not more distinctly state which are the cases of unsoundness of mind which he regards as examples of "partial" insanity. It would appear that he looks upon monomaniacs, persons with well marked insane delusions or hallucinations, as only partially insane; this is contrary to the views generally entertained.

C. S. W. COBBOLD, M.D.

HISTOLOGY.

RECENT PAPERS.

1. GANGHOFNER.—Ueber die Tonsilla and Bursa pharyngea. (*Litz. ber. der K. K. Akad. d. Wiss.*, 1878; Wien, 1879, 78, 81-167.)
2. LAFFONT.—Contribution à l'étude des Nerfs Vaso-dilatateurs. (*Progrès Méd.*, Paris, 1879, vii, 560-562.)
3. LEGROS and MAGITOT.—On the Development of the Teeth. (*Journ. d'Anat. et de Phys.*, Mai-Juin 1879.)
4. NIKOLSKY.—Beitrag zur Physiologie der Nervi erigentes. (*Arch. f. Phys.*, Leipzig, 1879, 209-221.)
5. OPPENHEIMER.—Histological Differences between Chancre and Chancroids.
6. OPPENHEIMER.—Fatty Liver in Infants.
7. WATERS.—Cryptogamous Growths in Teeth.
8. KRUCKENBERG.—On Tetroneurhythm in Sponges. (*Vergl. Physiologischen Studien an den Küsten der Adria*, Kruckenburg.)
9. KNOLL.—Influence of Chloroform and Ether on Respiration and Circulation.

3. Legros and Magitot on the Development of the Teeth.—In the *Journal de l'Anatomie et de la Physiologie*, de M. Ch. Robin (Mai-Juin 1879), is an important paper on the development

of the teeth, by Drs. Legros and Magitot. They state that they have clearly made out the termination of the nerves in the tooth-pulp, and their conclusions differ from those of all other writers upon the subject. They describe the nerves as passing out to the surface of the pulp, a little beyond the capillaries, and there becoming continuous with the filamentous prolongations of certain stellate cells, which form a layer beneath, and are themselves continuous, by their processes, with the odontoblasts. The sensibility of dentine would therefore be due to the dentinal fibrils themselves, and not, as Boll supposes, to the penetration of dentine by ordinary prolongations of nerves of the pulp, and the odontoblasts would have to be regarded as in a degree sense-organs. These observations were made upon fresh pulps treated with osmic acid and chloride of gold, and the authors are very positive as to their accuracy. They allege also that they have established the existence of a special cement-organ, found only in those animals which have cementum upon the crowns of their teeth. This lies of course outside the enamel organ, is semiopaque, very vascular, and thick enough to be appreciable to the naked eye; prior to its calcification it becomes cartilaginous, and contains abundantly chondroplasts. They distinguish two different methods in which cementum is formed, (1) as on the roots of human teeth, from the alveolo-dental periosteum, without the intervention of a special cement-organ; (2) as upon the crown of the teeth of herbivora, from a specialised cement-organ, which becomes cartilaginous prior to its calcification. They hold that enamel cells are terminated (towards the surface of the young enamel) by dense plates or opercula. They are opposed to the idea that the enamel-prisms are due to the direct calcification and conversion of the enamel-cells, believing that by some process of exosmosis the constituents of enamel, elaborated by the cells, traverse these plates, and are deposited on the further side of them. By the coherence at their edges of a number of these plates a deceptive appearance of a membrane is produced (*membrana preformativa* of Raschkow and others); and, as they are very indestructible, this is particularly likely to happen when specimens have been treated with strong acids. The paper contains somewhat minute descriptions of other portions of the tooth-sac, and is well illustrated.

CHARLES S. TOMES.

5. Oppenheimer on the Histological Differences between Chancre and Chancroids.—Dr. Oppenheimer states, as the result of observations conducted in the Microscopical Laboratory of the University of Louisville, that he has come to the conclusion that, whether a venereal sore will or will not be followed by constitutional syphilis, may be determined by means of the microscope. This is done by quickly cutting out a small piece of skin, including the corium, from the affected part by means of scissors. This is hardened for a week in a 1 per cent. solution of bichromate of potash, and sections made. The indurated chancre is due to a mass of closely packed cells which are almost uniformly distributed from the epidermis to the subcutaneous structures, and infiltrating the deeper tissues as well. The walls of the blood-vessels are so thick that their lumen is almost lost. The cells are small, averaging about .0035 millimètre in diameter, very granular, and are intensely coloured by the carmine in picro-carmine staining. Chancroids or soft chancres may be syphilitic or not. In both varieties, the corium is the principal seat of disease. In the syphilitic chan-

croid the cells are similar in appearance and reaction to the above cells, but the infiltration does not extend so deeply. In the non-syphilitic, or true chancroid, the cell is larger, averaging .0050 millimètre in diameter, is not so granular as the other, and is coloured by the picric acid in preference to the carmine. These cells are arranged loosely in large meshes of spindle-cells, whose spaces are filled with a serous or lymphoid fluid. The blood-vessels are dilated, their walls thin, and surrounded for some distance by this loose infiltration of yellowish cells; around the sebaceous glands the same kind of cell is seen. The rete mucosum seems to limit the infiltration. The local or constitutional nature of a venereal ulcer cannot be determined by the appearance of the cell alone, but by taking into consideration the general character of the whole cutis.

6. *Oppenheimer on Fatty Liver in Infants.*—Dr. Oppenheimer finds, in opposition to the statement in most text-books that the liver is rarely affected in consequence of diseases of the alimentary tract, that, in infants dying in the second or third weeks of entero-colitis, not only has fatty degeneration of the liver been present as a rule, but also splenic enlargement and congestion. To the unaided eye the liver looks almost normal; the microscope, however, reveals a fatty degeneration of the hepatic cells along the whole course of the portal vessels. This is not an infiltration, but a true fatty degeneration, preceded by the formation of an abnormal plasma in the hepatic cells, which obscures the nuclei completely. The only exceptions are those cells immediately surrounding the intralobular veins, they being the last to undergo the pathological change. JAMES F. GOODHART, M.D.

7. *Waters on Cryptogamous Growths in Teeth.*—Dr. Waters gives descriptions and figures of various cryptogamous forms found in a circumscribed cavity upon the masticating surface of a tooth. Similar forms were found to exist in common articles of food, such as sweet potatoes, Brazil nuts, Spanish chestnuts; and during the cultivation of these fungi acetic and other acids were formed. The writer calls attention to the share these bodies may play in dental caries; probably they cannot multiply to any extent at the expense of the tooth-substance, but at all events they can assist in the decomposition of food or other foreign matter, and in the development of acid products, capable of decalcifying the tooth-substance. And, inasmuch as crevices, the most minute, may harbour cryptogams, and indeed are known to do so in the mouth, he advises that all cavities in teeth be wiped out, preparatory to being filled, with some indifferent substance incapable of nourishing cryptogams, with a view of filling up with it invisible scratches and crevices. For this purpose he strongly advocates the use of vaseline. Whilst cultivating a form which he found within the cotyledons of a filbert, which rapidly formed a dense and highly offensive film on a tumbler of water, he was six times prostrated with a fever resembling typhoid. At first the fever yielded to administration of bisulphite of soda and carbolic acid, but he ultimately had to give up further study of this fungus. Old shrivelled sweet potatoes were observed to swell up and look fresh, during the abundant development of mycelium between the starch-cells. Thus many vegetables may appear to be good food when really largely composed of fungoid forms.

8. *Kruckenberg on Tetronerythrin in Sponges.*—Dr. Kruckenberg has discovered that he can extract

from various suberites (suberites demuncula, massa, and lobatus), by means of ether, an orange-red colouring matter which resembles in all its reactions the "tetronerythrin" extracted by Wurm, Liebig, and Hoppe-Seyler, from the so-called "roses" of grouse, heathcocks, and pheasants, by means of ether, chloroform, sulphuret of carbon, etc. Tetronerythrin has a certain interest on account of its sensitiveness to light, although it resists alkalis and acids. This remarkable phenomenon in tetronerythrin of sponges is explained in Dr. Kruckenberg's second treatise on *Vergl. Physiologischen Studien an den Küsten der Adria*.

9. *Knoll on the Influence of Chloroform and Ether on Respiration and the Circulation of the Blood.*—The vapours of chloroform or of ether, acting on the nasal mucous membrane, induce cessation of expiratory breathing and spasmodic closing of the glottis by reflex action from the terminations of the trigeminus. The influence of the vapours on the mucous membrane of the lower air-passages, however, induce by means of the vagi a high degree of shallowness in respiration by the inspiratory condition. By these reflex actions the organism prevents the reception of too large a quantity of these substances into the blood, and their influence on the centre of respiration is thereby delayed. In order to make this clear, the author excluded the reflex actions of the upper and lower air-passages by experimenting on animals (rabbits), the vagi of which had been cut through, and which were confined in an air-tight case. Through the side of this case a tube extended to a cannula tied in the trachea; and the cavity of the case communicated also with Marey's registering drum, in order to register the respiration. The chloroform or ether vapour was conducted to the lower air-passages by connecting the mouth of glass vessels, of equal size, having wide apertures of equal diameter, and containing an equal quantity of ether and chloroform, with the tube extending into the tracheal cannula. In these experiments ether and, in a higher degree, chloroform proved to be intense poisons to the centre of respiration. In the majority of cases, the inhalation of air strongly saturated with chloroform vapour during one to two minutes was quite sufficient to cause cessation of respiratory movements; in quite fresh animals with severed vagi, the experimenters succeeded mostly in reviving the extinct natural respiration, by artificial inhalation continued for several minutes. This was possible even if the artificial inhalation could be commenced only a few minutes after the complete extinction of natural respiration, provided the heart had not ceased to beat. The effects of the inhalation of ether are not so intense as those of chloroform, as under the same conditions ether-inhalations, continued even for fifteen minutes, are not sufficient to effect the complete extinction of respiration. If a rabbit, the cervical vagi of which has been cut through, be made to inhale chloroform vapour by means of a tracheal tube in the manner before described, the first four or five respirations are generally unchanged during the inhalation of the chloroform. Distinct changes of the respiratory movements rarely occur after two or three, but frequently only after a larger number of inspirations. The first change generally is a long expiratory tetanus, which may last six, ten, or even sixteen seconds, and be repeated several times. Respiration then still remains a short time greatly retarded, often partly, sometimes entirely, in consequence of the prolongation of the inspiratory phase. Then

follows the final acceleration, with still deep respiration, but becoming gradually shallower, till it entirely ceases. The effects of ether-inhalations under the same conditions exhibit essentially the same type, but are of less intensity. That the change of respiration before described is not caused by the local influence of the chloroform and ether vapours on the lower air-passages is obvious; because this change takes place only after the cutting through of the vagi, or when the terminations of the nerves in the lungs are injured by repeated and prolonged narcosis. In order, however, to obtain further confirmation, the writer experimented by injecting ether and chloroform into the circulatory system, and these experiments induced typically the same change of respiration. A difference in the intensity of the influence of ether and chloroform on respiration was not observed by these injections into the circulatory system, as equally small quantities of these two substances have induced extinction of respiration under these conditions. These experiments clearly prove that also after inhalations the effects before mentioned are the result of the absorption of the substances into the blood. Here they act as such on the centre of respiration, and not by paralysing the respiratory functions of the red blood-corpuscles; because the respiratory type induced by inhalation and injection is essentially different from that of dyspnoea, induced by want of oxygen, and can be always created although dyspnoea existed before. The influence on the centre of respiration is also not the effect of changes in the circulation; because it can be produced separately from them, and commences sooner than these changes, when (which is generally the case) taking place. The author thinks it probable that the effects before mentioned are the expression of a strong excitation of the centre of respiration, which leads to rapid exhaustion of the excitability. He admits, however, the possibility that chloroform and ether, like many other nerve-poisons, may act on the nerve-centres, exciting with a small dose, and paralysing with a large one, and that when the poison is taken in more rapidly than it is expelled, first the smaller doses, and later the larger ones, take effect. The author leaves it doubtful why the chloroform and ether have a specific influence on the respiratory centre, but he maintains that it does not consist in the destruction of the nerve-elements; because the respiration soon becomes normal again when, through spontaneous or artificial respiration, pure atmospheric air is conducted into the lungs. In the second communication, the author gives first a description of the arrangements with which the air-tight case, destined for the reception of the small animals to be experimented upon has been provided. Besides having a ventilator of the lungs and register of respiration, it had also an apparatus which registered the pressure of the blood, made the injection into the vascular system, and cut the cervical nerves whilst the case was closed. This apparatus served adequately to exclude the action of the vapours from the upper air-passages, even during the study of the changes of the circulation induced by the chloroform and ether-injections and inhalations. In these experiments it became also evident that inhalations of chloroform and ether induced stronger disturbances in those with cut, than in those with intact vagi, and that ether was less injurious than chloroform when inhaled, but equally injurious when injected. In somewhat prolonged inhalations of chloroform, the continuity of the circulation in fresh animals with the vagi cut, is directly en-

dangered; the swimmer of the mercurial manometer then sinks to a few millimètres above zero, and no longer indicates the palpitation of the heart, which even before had been marked only indistinctly on the curve of the pressure. Artificial respiration, quickly resorted to, succeeded in many cases in completely restoring the circulation and, subsequently, also respiration. The latter rarely (more frequently in injections than in inhalations) outlasted the activity of the heart, but ceased mostly a minute or two before the circulation. In an inhalation of ether, lasting several minutes, the circulation was found still sufficient, although somewhat weakened. The depression, which usually occurs a few seconds after the commencement of the chloroform or ether-inhalations, is sometimes gradual, sometimes (especially after the section of the vagus) very abrupt, and lasts mostly a few seconds after the inhalation has terminated. The lowest point of the depression is sometimes reached only then. In animals with severed vagi as a rule, and in those with intact vagi exceptionally, the primary depression was succeeded by a secondary one above the original level, the intensity of which stood in direct relation to that of the primary depression. In experiments with injections into the circulatory system, the secondary increase of pressure was absent. By the insufflation of chloroform into artificially ventilated animals, treated with curare, it has been established that the phenomena described in the pressure-curve of the blood are independent of the simultaneous changes of the respiratory movements. Besides the chloroform-inhalations by animals with intact vagi, in which an increase of pulsation occurred in a larger number at the commencement, the employed encroachments generally induced retardation and weakening of the palpitation of the heart, which accompanied the depression. A great part of the latter is, therefore, certainly the result of the diminished activity of the heart. The investigated poisons do not influence the palpitation of the heart by the excitation of the interceptive mechanisms; because no relative prolongation of the diastole takes place during the retardation; the propulsive power of the heart also does not cease because of rest in the diastole, but on account of the commencing irregularity of the contractions. As little can it be supposed, that the small quantity of poison which gets into the blood has a direct influence on the muscles of the heart; the assumption alone, therefore, remains, that chloroform and ether paralyse the ganglia of the heart. As in the weaker influence of chloroform a certain depression takes place in certain cases, without a change of the frequency or intensity of the pulsation of the heart being visible in the pressure-curve, it may be assumed that the depression is necessitated also by the other experimental arrangements, partly by vascular relaxation. That this is indeed the case, and that the vascular relaxation is not based upon the paralysis of the smooth muscles, but upon the vaso-constrictor centres, has been demonstrated by experiment on rabbits, the vaso-motors of one ear of which had been before separated from the centre. Whenever the author made such animals alternately inhale nitrate of amyl and chloroform, there occurred, in the first case, a very considerable dilatation of arterial vessels on both ears; in the latter case, however, one scarcely less considerable occurred only on the normal innervated ear, whilst the arteries of the ear on the operated side remained in the condition of medium width.

LARYNGOLOGY.

RECENT PAPERS.

1. FREUDENBERGER.—On a Case of Perichondritis Laryngea due to Typhoid Fever.
2. GNÄNDINGER.—On the Effects of Benzoate of Soda in Diphtheria.
3. JURASZ.—On a Case of Lupus of the Pharynx.
4. MORGAN.—On Diphthonia Paralytica. (*National Med. Review.*)
5. SCHROETTER.—On the Extirpation of Growths in the Larynx.

1. *Diphthonia Paralytica*.—Dr. E. C. Morgan has reported a case of this unusual difficulty. A young man, aged 19, was nearly aphonic from prolonged laryngeal catarrh, which induced the disease named. Regarding the chronic laryngeal catarrh as being the cause of the paresis, and diphthonia a symptom of this paresis, Dr. Morgan's treatment was directed to the removal of catarrh, and then to the paresis, by the use of intra- and extra-laryngeal faradisation, and the administration of excito-motor stimulants. During the entire course of treatment, abstinence from alcoholic liquors and tobacco, and absolute rest of the voice was recommended. In five weeks he had the catarrh nearly entirely relieved, the voice meantime having become much more distinct. He used as a local application to the larynx zinc chloride 0.75 gm., in 32.00 of water, and as an inhalation alum, 15.00; aq. extract of opium, 0.20; glycerine, 50.00; rose water, 250.00. Both formulæ were made daily use of, until he began faradisation, which was two months from the commencement of the treatment. Relief promptly followed the electrical medication, combined with strychnia.

1. *Freudenberger on a Case of Perichondritis Laryngea due to Typhoid Fever*.—Dr. Freudenberger reports a case of perichondritis laryngea which has lately come under observation in Prof. Ziemssen's clinic in Munich. The patient, a stonemason, aged 29, had entered the hospital on February 25th, with typhoid fever. On the 28th, he became aphonic, but had no pain in the larynx. In the course of the first weeks in March, he had purulent inflammation of the middle ear on both sides, resulting in perforation of both tympanic membranes. Later on, the right arytenoid cartilage and the right vocal cord became immovable; the patient was quite aphonic. On April 15th, the otitis was cured, the perforations had healed, and the patient could hear better. He was, however, still very hoarse, and a flat dark red swelling of the size of a small pea appeared on the right vocal process. The mucous membrane around it was much injected and swollen. The patient then left the hospital in spite of all that was said to dissuade him from so doing. Eight days later, he came back, suffering from intense laryngeal dyspnoea. On examining his throat with the laryngoscope, the glottis was found to be very narrow and pushed towards the left by a considerable swelling of the right side of the larynx. The right vocal cord and the hypoglottic region were prominent, immovable, and the mucous membrane was of a dark red colour; the aryepiglottic fold was slightly swollen. The larynx was rather tender to external pressure. Tracheotomy was performed to save the patient's life. The results of the operation are not given in the paper. Ziemssen remarked when

speaking of the case in the clinic, that perichondritis as a sequel to typhoid fever is now no longer as frequent as it used to be before his antipyretic treatment had been adopted.

2. *Gnädinger on the Effects of Benzoate of Soda in Diphtheria*.—The results which have been obtained by the author are much less favourable than might have been expected from Letzerich's eulogium on the wonderful effects of this drug. Of 17 children with diphtheria who were treated with benzoate of soda in St. Anne's Hospital in Vienna, 8 died; while of 76 who were treated with ice, chlorate of lime and stimulants, 49 recovered, 25 died, and 2 were still under treatment when the paper was written. Gnädinger points out very justly that perhaps we are not justified in drawing conclusions respecting the efficacy of a remedy merely on the strength of the death-rate, but he studies carefully all the other points in which Letzerich had asserted the superiority of the remedy, and draws the following conclusions. 1. Benzoate of soda does not invariably prevent the formation of the false membranes. In this respect it does not seem to be superior to any other remedy. 2. It does not seem to have any special influence on the general state of health of the patient. The high temperature has often been observed to fall, both spontaneously and under the influence of quinine, while benzoate of soda has had no effect at all on it. 3. It seems to have some effect on the removal of the diphtheritic membrane, which may be deduced from the fact that, in six out of the nine cases which recovered, the membranes were cast off on the third day; in one case on the fifth day; and, in three cases, they were visible from thirteen to twenty days. 4. The author does not think that any direct harm has been done by the use of benzoate of soda, although in some cases the patient had taken a considerable quantity of it. In late years, all the remedies that have been recommended for diphtheria have been tried at St. Anne's Hospital. It has resulted from these experiments that ice, chlorate of lime, and stimulants, have hitherto proved the most reliable means for the treatment in this terrible disease.

3. *Jurasz on a Case of Lupus of the Pharynx*.—The following case is reported by Dr. Jurasz. A girl, aged 14, had been suffering for the last eighteen months from lupus eczema, and, for the last twelve months from dyspnoea and hoarseness. The mucous membrane of the pharynx and palate was very red; the uvula was deficient. A swelling of the size of a nut occupied the space between the anterior and posterior pillars of the soft palate, separated from the tonsils. It was removed, and found to be lupoid. After the operation, the pharynx became accessible to laryngoscopic examination. The epiglottis was absent; in its place rose an oblong, slightly rounded ridge, on which the glosso-epiglottic ligaments could easily be distinguished. Two thick cordiform growths extended from this ridge into the arytenoid cartilages, which were also much swollen. The pharyngeal extremities of these growths exhibited on their surfaces a shallow oblong groove, and encircled a funnel-shaped opening; the narrowest triangular portion of this aperture represented the glottis. The sides of this triangle were rough; the base especially presented a ragged appearance. During phonation, the arytenoid cartilages and the growths that have been described above came so closely together that the glottis appeared like a narrow slit or chink. The mucous membrane of

the pharynx was hyperæmic, swollen, and smooth. No ulceration or nodules could be seen. The absence of all syphilitic symptoms and the lupoid affection of the skin and pharynx made the diagnosis certain in this case. The author wished to treat it by forcibly dilating the glottis; this was, however, objected to by the patient and her friends.

4. *Morgan on Diphthonia Paralytica*.—Dr. E. C. Morgan has reported a case of this unusual difficulty. A young man of 19 years was nearly aphonic from prolonged laryngeal catarrh, which induced the disease named. Regarding the chronic laryngeal catarrh as being the cause of the paresis, and diphthonia a symptom of this paresis, Dr. Morgan's treatment was directed to the removal of the catarrh, and then to the paresis, by the use of intra- and extra-laryngeal faradisation, and the administration of excito-motor stimulants. During the entire course of treatment, abstinence from alcoholic liquors and tobacco, and absolute rest of the voice, were recommended. In five weeks he had the catarrh nearly entirely relieved, the voice meantime having become much more distinct. He used as a local application to the larynx, zinc chloride, 0.75 gm. in 32 gm. of water, and, as an inhalation, alum, 15 gm.; aqueous extract of opium, 20 centgm.; glycerine, 50 gm.; rose water 250 gm. Both formulæ were made daily use of, until he began faradisation, which was two months from the commencement of the treatment. Relief promptly followed the electrical medication combined with strychnia.

5. *Schroetter on the Extirpation of Growths in the Larynx*. The author reports an interesting case respecting a fibroma in the larynx, which became so large that it proved a serious obstruction to respiration. He removed a considerable portion of it, thereby affording temporary relief to the patient, who was pregnant. She came back in a few months, the growth having again increased in size. A second operation did not give the desired results. At the same time, an abscess formed on the neck, which burst open, and then healed again. The patient died, with all the symptoms of a pneumonia, complicated with icterus. The necropsy revealed carcinoma of the larynx. The author draws attention (1) to the fact that the original fibroma degenerated into a carcinoma; and (2) to the difficulty of treating the case. Extirpation of the larynx had been repeatedly suggested.

SYPHILOGRAPHY.

RECENT PAPERS.

1. ABELIN.—On Syphilitic and Tuberculous Affections of the Bones in Infants.
2. BAUER.—On the Rational Treatment of Gonorrhœa.
3. LEWIS.—On Syphilitic Affections of the Phalanges of the Fingers and Bones.
4. SIGMUND.—On the Exact Period of commencing the General Treatment of Syphilis.

1. *Abelin on Syphilitic and Tuberculous Affections of the Bones in Infants*.—Dr. Abelin says that syphilitic diseases of the bones are not at all a rare occurrence in infancy. Among 16,000 children who were treated in the out-door department of the children's hospital in Stockholm, 215 had syphilis, and of these, 23, i. e., 10 per cent., had syphilitic affections of the

bones. Out of these 23 patients, 9 were in their first month; 4 from two to eight months old; 3, two years old; 2, three years old; 3, aged respectively six, seven, and eight; and 2, aged nine. In fifteen cases the disease was hereditary, in 7 it had been acquired, in 1 case the etiology was obscure. Among the in-door patients syphilis of the bones occurred once in 9 cases, where the ages of the patients ranged from one to fourteen years. In children who were not a year old, 2 cases of acquired and 112 cases of congenital syphilis were observed, and 15 cases of syphilis of the bones. This affection may be regarded as the first manifestation of syphilis. The disease begins with swelling of the epiphysis, which is generally followed by multiple periostitis of the diaphysis. The prognosis is not very unfavourable. It must, however, be borne in mind, that multiple periostitis and osteitis often occur in children who are not syphilitic. The author ascribes most of these cases to tuberculosis, and thinks that the affections of the bones is merely a prodromal stage of tuberculosis. In one third of the cases where death was caused by tuberculous meningitis, the diagnosis was verified by the results of the necropsy.

2. *Bauer on the Rational Treatment of Gonorrhœa*.—Dr. L. Bauer gives the results of emollient injections in gonorrhœa as follows: "In seven cases of recent infection relief was obtained within the average time of six days and nine hours, discharge and tenderness having ceased. Some of the patients were attacked for the first, others for the second, and one for the third time." He reports a case, a first attack of infectious gonorrhœa. Diagnosis confirmed by inspection of the girl, who was suffering from a moderate erythematous vaginitis. His treatment was an injection of infusion of flax-seed, to which three drops to the ounce of tincture of opium had been added. In six days, there was no discharge or tenderness on pressure. Urination was free and painless. Rest perfect. Then, with the full understanding and consent of the patient, sulphate of zinc, one and a half grains to the ounce, was added to the injection, which soon resulted in an increase of tenderness and irritability, a return of the discharge, and general discomfort. Thirty days from date of beginning sulphate of zinc injections the patient was still under treatment, and far from being well. The uniform success of the flax-seed injections, as compared with the stimulating treatment, speaks much in its favour.

3. *Lewis on Syphilitic Affections of the Phalanges of the Fingers and Toes*.—A syphilitic affection of the fingers and toes, which originates in the bones, is so rare an occurrence, that the author only observed it six times during fifteen years, and among 3,000 or 4,000 patients. Twenty-seven more cases have been mentioned in the literature of the subject. After a careful review of the latter, and having compared them with those that have come under his own notice, the author has arrived at the following conclusions. The male sex is more frequently affected than the female, and old or middle-aged persons more frequently than children or young people. Syphilitic phalangitis belongs to the affections which are peculiar to old age. It appears in two forms, and is either periosteal or osteomyelitic. In periosteal phalangitis the affected finger often swells to twice or three times its natural size, and even increases in length if the disease has spread to the third phalanx. During the first stages of the affection, the swelling is not very hard, but it gra-

dually acquires a greater consistency. In some cases, the rough portions of the bone have been felt through the cedematous tissue of the finger. The swelling seldom confines itself to one phalanx, but spreads to the neighbouring phalanges. The member which was primarily affected is, however, more swollen and harder to the touch than the members which have been affected secondarily. The skin is generally of a reddish hue, sometimes dark or bluish. There is no spontaneous pain, but the member is tender to the touch, and functional disturbances soon set in. Ossifications have not been observed as yet, but a periosteal gumma is apt to form or suppurate often sets in. In the osteomyelitic form the syphilitic neoplasm is formed within the marrow of the bone. Through the rapid growth of the gumma the medullary cavity is expanded, and the bone acquires a peculiar worm-eaten appearance, owing to its nutritive foramen being plugged and widened by the syphilitic neoplasm. This form of the affection is frequently complicated with osteosclerosis. Osteomyelitic phalangitis is peculiar to new-born infants and to young children; while the periosteal form occurs more frequently in adults.

4. *Sigmund on the Exact Period of commencing the General Treatment of Syphilis.*—Opinions on this important question are still divided. While one party regards primary treatment, *i.e.*, when the first local morbid phenomena are observed, as necessary, the other party decides for later treatment, and this only when certain definite symptoms of the general illness positively show themselves. Both parties appeal to statistics in favour of their theories. Professor Sigmund means by the term "primary", that period of the syphilis which extends from the transmission of the disease till the first symptoms of the same show themselves on the outer skin, respectively the mucous membrane of the throat, *i.e.*, from six to eight weeks. During this period, the course of the disease runs according to an invariable type, while in the later period only the secondary forms appear typically, and these only in the beginning; because they vary afterwards as to symptoms and duration. The primary forms continue in the great majority of cases after the evolution of the secondary forms, and both will then indicate the antisyphilitic treatment. The remedies for this affection are the well-known preparations of iodine and mercury, their combinations and the concoctions containing them. In order to answer the question in dispute, it is obviously necessary to study thoroughly many and various forms of this disease in both sexes and at various ages, taking into account the constitution, external influences, and the various modes of treatment. Especially as to the success of the treatment during the chronic course of syphilis, and its transmission by procreation, only close observation, extending over many years, can alone decide. The author believes himself peculiarly qualified to make the following statements, on account of his exceptionally large experience. 1. The primary forms of syphilis take a favourable course during the period of six to eight weeks by purely local treatment, corresponding to the anatomical seat, type, and extension of the affected tissues, the constitution of the patient, and the external circumstances which influence him. The healing process is neither simplified nor shortened by any medicinal antisyphilitic general treatment. The use of energetically effective means (iodine, mercurial preparations, aperient and sudorific preparations), as well as lowering treat-

ment, frequently retard the healing process, or create a deterioration of the disease. This has been clearly proved in those cases in which the employment of the aforesaid means induced an unfavourable course of the disease, but in which rapid improvement took place after resorting to purely local treatment. 2. The secondary forms of syphilis are so mild in a great number of patients (40 per cent.) that they do not perceive them, and in a further considerable number of patients (10 per cent.) morbid appearances on the skin and the mucous membrane of the throat are scarcely perceptible, and rapidly take a favourable course by merely adequate local treatment, without disturbing the nutrition, functions, and general condition of the respective patients. Experience proves that serious secondary forms appear less when the expectant treatment is adopted than when antisyphilitic means are resorted to from the commencement of the disease. The author also maintains that, in the later period, there are more numerous and certain indications for the selection and application of the remedies. 3. The more extensive, pronounced, and obstinate forms of syphilis, whether initial or secondary ones, develop themselves in persons who suffer simultaneously either from a pronounced or a latent constitutional disease, also in those who live under unfavourable hygienic and dietetic conditions. Many antisyphilitic modes of treatment have the same unfavourable influence. 4. Experience has proved that an adequate, general, antisyphilitic treatment, resorted to only in the later period, is followed by more rapid and complete results than the primary treatment, as the latter is protracted and frequently requires repetition. According to the author, the best period for the commencement of a general antisyphilitic treatment is, therefore, the secondary, but even then we must only resort to it if several organs and systems suffer from this disease, or if one of the same is seriously affected, or the nutrition and functions of the organism are known to be deteriorated solely by the syphilis. In mild attacks, and the affection of individual organs, adequate local treatment is also sufficient for the second period. For every period however, and for every form of syphilis, the most attentive hygienic and dietetic care as well as regard for, and treatment of, other constitutional diseases are indispensable. The author rejects as untenable the view popular in daily practice, that out of regard for anxious patients, and the reputation of the physician, it is humane and wise to commence the general treatment with small doses of the antisyphilitic remedies during the primary period. The employment of a mode of treatment regulated according to the principles before mentioned will, in time, alone make the demands and judgment of the patient reasonable.

TOXICOLOGY.

1. AUER.—On Poisoning with Cyanide of Potassium.
2. KUBY.—On Poisoning with Hydrochloric Acid.

1. *Auer on Poisoning with Cyanide of Potassium.*—W. D., a youth aged sixteen, of a melancholy temperament and of unsettled habits, had been disappointed in love, and fallen into a state of great

depression. On the 7th July 1878, he secretly procured some cyanide of potassium and announced his intention to destroy himself. He dissolved this in water, and in the presence of two companions he swallowed a quantity of the liquid, wishing them at the same time farewell. It was observed that he spoke indistinctly, and he suddenly fell into the arms of one of his friends in a state of unconsciousness. In this condition he was placed on an adjoining bed. His breathing was deep and difficult, his eyes rolled convulsively, and the whole of his body was convulsed. While in this state, he suddenly threw himself on the floor. These symptoms lasted from half a minute to a minute. While on the floor he rolled about, endeavouring to scratch the surface with his hands, the convulsions continuing. His companions again placed him on the bed, on which he now appeared to lie in a lifeless state, the convulsions having ceased.

Dr. Auer was then called in. He found the patient lying on the floor, his legs and arms stretched out, and the body bent in a state of opisthotonus, motionless and apparently lifeless. As a result probably of his having fallen from the bed, a small quantity of blood had issued from the mouth and nose, and some semifluid matter, of a dirty white colour and faint odour, had escaped from the mouth.

There was no pulsation at the wrist, nor in the heart. The pupils of the eyes were fixed and widely dilated. The man was dead. The jug out of which he had drunk the liquid still contained a quantity. It had a soapy alkaline feel, and a faint odour of bitter almonds. The case was set down as one of suicidal poisoning.

Dr. Auer, for his own information, made an inspection and a chemical analysis. In conjunction with two experienced chemists, he first made an examination of the contents of the jug. By the application of the nitrate of silver and sulphide of ammonium, he satisfied himself that the substance dissolved was really cyanide of potassium, and, although the amount swallowed by deceased could not be determined, there was no doubt that death had been caused by a concentrated dose of this poison. An inspection was made the day following the death, July 8. The body was pale. In the depending parts there were some dark livid patches; the rigor mortis was strongly developed. The features were composed, as of one sleeping. The pupils were still dilated, and the lips livid. The vessels of the dura mater were strongly congested with dark coloured blood, and those of the pia mater the same. The sinuses were also distended with dark fluid blood. The substance of the brain was firm and dry. The right lung was cedematous—the lower half much congested. The left lung presented a similar appearance, but the upper third was consolidated from disease; the upper lobes of the lungs were tuberculous. The heart was contracted, and in the left ventricle there was no blood, but the right ventricle was distended with dark blood and fibrinous coagula. The liver, spleen and kidneys presented no particular appearance. The bladder contained an ounce of thick turbid urine. In none of the three cavities could the slightest odour of bitter almonds be perceived. The tongue was blueish-white; the mucous membrane of the oesophagus was swollen and of a dingy red colour. The stomach contained a large quantity of partly digested food. There was an alcoholic odour in the contents, but no smell of bitter almonds. The mucous membrane of the stomach, towards the cardiac end and fundus,

was of a dark cherry-red colour. The rugæ were swollen and of a deep blood-red colour; and the mucus spread over the stomach had a reddish tinge. The mucous membrane of the duodenum was swollen, and of a pale red colour. The other portions of the intestines presented no appearance calling for notice.

Cyanide of potassium was readily detected by the appropriate tests in the coats of the stomach, which were finely cut up and submitted to distillation. There was no satisfactory evidence of the presence of the poison in the blood or urine.

One of the most remarkable features of this case is the rapidity with which the poison began to operate and proved fatal. There is reason to believe that the deceased had swallowed only one mouthful of the liquid in the presence of his two friends. He became almost immediately insensible and died within two or three minutes. The shortest authentic case yet recorded proved fatal in a quarter of an hour. On this occasion, the cyanide operated with the rapidity of the strongest prussic acid. Although the actual quantity of cyanide taken could not be determined, it must in this case have been in a strong solution, probably concentrated. The vapour of this liquid spilled on the floor produced dizziness and nausea in one of the police officers standing near. The sudden supervention of symptoms and the fatal result showed that the prussic acid of the cyanide of potassium must have been rapidly absorbed and diffused with the blood, producing in its diffusion a sudden paralysing effect on the spinal marrow.

Among the appearances found, the dark cherry-red colour of the mucous membrane of the stomach, as well as its swollen condition, may be regarded as characteristic of this form of poisoning. Leman has particularly noticed the bitter almond odour as being strongly indicative of poisoning by the cyanide, while Hoffmann looks upon the above-mentioned condition of the mucous membrane as a distinguishing character of the action of the cyanide of potassium, in which respect it differs from prussic acid.

Dr. Auer considers it remarkable that no odour of bitter almonds should have been perceived on this occasion in any of the cavities of the body, since the inspection was made only ten hours after death, and it is evident that a very strong solution of the cyanide had been taken by the deceased. He suggests that the acid may have been decomposed or neutralised by the large quantity of food in the stomach, and that the vapour had escaped. The fact is of importance; for in some cases the non-discovery of this odour has been taken as a proof that a cyanide was not present, and that there had been no poisoning. It must be remembered, however, that the odour is not always met with in poisoning by prussic acid, and still less frequently in poisoning by the alkaline cyanide. The colour of the blood is another point for consideration. Leman describes it as of a bright cherry-red colour, and quite fluid. In the case of the deceased it was dark and fluid.

Referring to the chemical processes employed, the author speaks briefly of the delicacy of the guaiacum and copper tests for the detection of prussic acid. We have found this a very uncertain and untrustworthy process. The silver and sulphur tests employed by him gave satisfactory results, and it was, therefore, unnecessary to resort to one of doubtful value.

2. *Kuby on Poisoning with Hydrochloric Acid.*—Cases of poisoning with hydrochloric acid are so un-

frequent that the one here recorded by Dr. Kuby of Augsburg is on several grounds worthy of notice. On the 5th May 1878, a drunken pauper, aged 55-60, who had taken several glasses of brandy, swallowed a portion of the contents of a stone bottle, which contained hydrochloric acid in a diluted state. He was observed to walk hastily away without manifesting any signs indicative of anything wrong, and some time afterwards was found lying on the ground, complaining of the most severe pains. He was brought into the house. He drank a large quantity of water, and took a small portion of soup. He was placed in bed and covered over. Here he lay until the morning, moaning with pain. He died twenty-four hours after swallowing the acid. The body was examined in the churchyard, forty hours after death. The stomach was not found in a softened state, but in one portion, about three inches in diameter, the mucous membrane was of a brownish-red colour, and penetrated with effused blood, while in another spot it was abraded and entirely destroyed. On the outside of the stomach, corresponding to the coloured patch of extravasated blood, were numerous spots of a dotted red colour, some larger than others. The coats of the duodenum were intensely red and swollen. There was nothing striking about the tongue, mouth, or fauces. The mucous membrane of the oesophagus was reddened, but not destroyed. This redness was especially noticed at the part where it joined the pharynx, and also at the lower part. The fluid contents of the stomach were of a deep yellow colour. They scarcely reddened blue litmus paper. A solution of nitrate of silver produced an abundant curdy precipitate in the fluids of the stomach, in the urine, and in the fluids of the abdomen. The blood was dark and fluid, and was present in large quantity in the lungs, liver, the vessels of the intestines, and of the brain and its membranes, as well as in the substance of the brain itself. There was fatty degeneration of the liver and of the heart. The inner substance of the kidneys (*substantia tubulosa*) was pale and bloodless, while the cortical portion (*substantia muscularis*) was injected and contained much blood. The changes observed in the stomach were no doubt due to the long contact of the corrosive fluid with them. At the same time, it is obvious that the acid could not have been highly concentrated, otherwise the mucous membrane of the mouth, fauces, and oesophagus would have shown marks of its action, and the coats of the stomach would have been softened and blackened. The abrasion of the mucous membrane of the stomach demonstrates that the corrosive fluid was detained a long time in this organ, and it probably would have acted more powerfully on the coats but for the alcohol previously taken in the form of brandy. In the opinion of Dr. Kuby, alcohol greatly reduces the corrosive properties of the mineral acids. The absence of any corrosive action on the intestines he explains by the admixture of alcohol with the acid, and the large quantity of water swallowed by deceased during his illness. The non-coagulation of the blood, the slow progress of putrefaction, the fatty degeneration of the liver and heart, are also, in the opinion of the author, indications of poisoning by the mineral acids, and have been repeatedly observed. This is not, so far as we know, in accordance with the observations of others. The retardation of the putrefactive process he attributes to the neutralisation of the ammonia by the mineral acid, as it was evolved in this process. No free hydrochloric acid, or any

other acid liquid, was found in the contents of the stomach or in the body. This the author justly remarks is not inconsistent with the opinion that a corrosive fluid had been taken. The acid might have been absorbed, and thus removed from the stomach and intestines, especially as the deceased had drunk a large quantity of water, and had thus favoured its absorption and removal. It is clear, from the state of the stomach, that the acid had reached this organ in a state sufficiently concentrated to produce abrasions in it, and to cause the death of the man. [The case calls for only a few remarks. There is no account of vomiting as a symptom, which is unusual, but as the deceased was not watched throughout his illness, this may have taken place, as it usually does, soon after he had swallowed the acid liquid. As a rule, it is rare to find any trace of the mineral acids in the stomach if a person has survived twenty-four hours, and has taken much water. The liquids of the stomach were not sufficiently acid to change the colour of blue litmus paper, and when distilled they yielded no acid product. The silver solution added to the contents of the stomach merely proved the presence of alkaline chloride. There can be no doubt, however, that hydrochloric acid had been here taken, and was the cause of death. The dilution was sufficient to prevent any chemical action on the mouth and fauces in the act of swallowing. The stomach was corroded by the acid remaining there longer. It is rare that in mineral acid poisoning the intestines suffer beyond the duodenum.—*Rep.*]

A. S. TAYLOR, M.D.

REVIEWS.

Mémoire sur les Affections Syphilitiques Précoces des Centres Nerveux. Par CHARLES MAURIAC, Médecin à l'Hôpital du Midi. Pp. 195. Paris, G. MASSON. 1879.

In this monograph the author discusses very fully the various ways in which the nervous system is liable to be affected by syphilis in its earlier stages, and gives in detail eight cases which were under his own care, in all of which the nervous affection had showed itself at periods varying between the fourth and the fourteenth month after the appearance of the primary sore. Another case is mentioned in which a man, aged 58, in the third month after infection, had a sudden attack of loss of consciousness followed by right hemiplegia.

With the view of determining the period after contagion at which the nervous centres are most liable to be attacked, M. Mauriac has collected 168 cases from the works of Lagneau, Zambaco, and Gros and Lancereaux, with the following result. In 53 cases (nearly one-third of the whole), the interval between the primary sore and the appearance of the nervous disorder was one year and under, viz.—one month in 3 cases, two months in 4 cases, three months in 5 cases, four months in 7 cases, five months in 4 cases, six months in 6 cases, eight months in 2 cases, nine months in 2 cases, and twelve months in 20 cases; of the remainder, the interval in 19 cases was two years, and in 13 cases three years. In 28 cases, the nervous symptoms occurred from four to six years after the primary disease; in 28 cases, from seven to ten years after; in 11 cases, from eleven to fifteen years after; in 10 cases, from seventeen to twenty years

after; and, in 6, from twenty-one to forty-eight years after.

Without wishing to place too much reliance upon these statistics, M. Mauriac thinks that those of other authors would give very much the same results, and would show, as do these, the very great relative frequency of implication of the nervous system during the first two or three years of syphilis, and especially during the first year.

The greater rarity of cerebro-spinal syphilis at more advanced periods ought not to astonish us. It should be taken into consideration that, among the syphilitic subjects of the same generation, many die from some cause or other before syphilis "has had its last word with them". Had they lived longer they might have developed cerebral syphilis. In judging of statistics, also, it should not be lost sight of that the number of cases of syphilis of one, two, or three years' duration, is infinitely more considerable at any given moment than those of ten, fifteen, twenty, thirty, or forty years' duration.

The following are the conclusions at which M. Mauriac has arrived on the subject of syphilis of the nervous system, after a careful study of his own cases and those of other observers. Syphilis may attack the nervous centres very soon after the primary manifestation. The early syphilitic cerebro-spinal affections are those which develop during the virulent period of the disease, that is, during the first two or three years. There are different degrees of precocity in cerebro-spinal syphilitic affections: the first degree includes those which happen in the first twelve months; the second degree includes those which develop during the second and third years of the constitutional disease. Statistics would seem to prove that cases of the first degree are more common than those of the second. Among the early syphilitic visceral affections, those of the cerebro-spinal system are incomparably the most frequent; they are also the most dangerous. Their gravity bears no relation to the period of the disease at which they appear; those which occur during the first few months of syphilis are as much to be feared as those which are associated with the later stages of the malady. Although brain-syphilis may manifest itself in the same forms and by the same symptoms in the earlier as in the later stages of the disease, there are some forms which seem to predominate, the most frequent being hemiplegia, affecting the whole of one side of the body. Right hemiplegia with aphasia is most commonly seen. Paralytic symptoms are much more common than convulsive or epileptic attacks in early brain-syphilis. In cerebro-spinal syphilis disorders of the mind and inco-ordination of movement are never systematised as they are in insanity, general paralysis, and locomotor ataxy. The absence of systematisation in cerebro-spinal syphilis ought to be regarded as one of its principal characteristics. Syphilitic disease of the spinal cord is much less frequent than of the brain. Circumscribed or diffused hyperplastic effusions in the cortical substance of the brain and pia mater, and disease of the middle cerebral arteries, with consecutive softening, are the lesions which appear to attend early cerebro-spinal syphilis. In some fatal cases of early cerebral syphilis no lesion has been found; but syphilitic disease of the arteries was not then recognised. The *etiology* of early cerebro-spinal syphilis can only be vaguely conjectured. In most cases, the primary manifestation as well as the affections of the skin and mucous membrane have been mild in

character. The general course of the constitutional disease is not modified by the appearance of early affections of the nervous centres. Other manifestations occur before, after, or at the same time as the nervous troubles, without undergoing any change in form, degree, or mode of progression. The precocity of cerebro-spinal syphilis does not give any particular indication as regards treatment. Whatever be the stage of the constitutional disease, symptoms of brain-syphilis require the same medication. The special features of each case furnish the secondary indications as to choice, dose, or combination of the two specific drugs. ARTHUR COOPER.

Observations on Contraction of the Fingers (Dupuytren's Contraction), and its Successful Treatment by Subcutaneous Divisions of the Palmar Fascia, and Immediate Extension. Also on the *Obliteration of Depressed Cicatrices after Glandular Abscesses on Exfoliation of Bone by a Subcutaneous Operation.* By WILLIAM ADAMS, F.R.C.S. J. and A. Churchill. 1879.

Mr. Adams has published these two essays in their present form as, he thinks, the subjects considered have not attracted sufficiently the attention of operating surgeons, although the papers have before appeared in the pages of the *British Medical Journal*. In the preface we are informed that many patients who have consulted the author with Dupuytren's digital contraction have been previously advised by eminent surgeons not to submit to operative interference, "as the fingers if straightened would remain stiff and useless, or worse than useless, in consequence of the tendon being divided". The pathology of the disease is recognised as being due to the contraction of the palmar fascia, and three distinct stages are stated to exist:

1. Nodular induration of the palmar fascia:
2. Adhesion of the skin to the fascia, and the consequent production of a puckered dimple:
3. The production of a thick cord-like band of fascia extending towards the annular ligament and drawing down the fingers, the ring one most commonly, towards the palm.

The causes of the deformity, the author believes, in variance to most surgeons, to be always constitutional rather than local, and a gouty diathesis is thought generally to be blamed; as a reason for this statement is instanced the fact, that many professional men who have no manual labour are affected with the contraction, and hereditary tendency may sometimes be traced. The operation Mr. Adams recommends is the introduction of a tenotome, and the subcutaneous division of the contracted fascial bands at several points:

1. In the palm of the hand between the transverse crease and the annular ligament:
2. Between the crease and the web of the fingers:
- 3 and 4. At the insertions of the fascial prolongations into the lateral aspects of the fingers.

The after-treatment advised is the wearing of a digital splint continuously, to extend the fingers, for three weeks; at the end of that time this should be omitted during the day but reapplied at night for a month longer. Numerous plates are given illustrative of hands before and after this operation has been performed. The results in the majority of cases leave nothing to be desired.

The second essay deals with the subcutaneous division of all adhesions down to the base of those cicatrices which are a cause of disfigurement. After

this division is completed, two hare-lip needles are passed at right angles to each other under the scar, to evert and keep it raised for three days. At first, a certain amount of swelling and thickening of the cicatrix follows this procedure, but, in a few weeks, the tissue falls to the level of the surrounding skin, and all depression is obliterated.

The republication of these two papers will doubtless prove of service to all who wish to profit by Mr. Adams's experience on the subjects they consider.

T. F. CHAVASSE, M.D.

NEW INVENTIONS.

SIR HENRY THOMPSON'S NEW APPARATUS FOR REMOVING THE FRAGMENTS LEFT AFTER LITHOTRITY.

For some long time, those surgeons who pay special attention to the treatment of diseases of the urinary passages, have thought a great deal of a means for clearing a calculous bladder in the quickest way possible from the fragments left after lithotripsy. Mr. Clover was the first to invent an india-rubber instrument, which united aspiration to the simply evacuating action of the staff; and this instrument has been many years in use, and has been found of great utility. More recently, Dr. Bigelow, of Harvard, has proposed to make it a rule to evacuate the bladder completely in a single operation, and has for this purpose constructed a more powerful apparatus than those in use up to that time. His apparatus consists of an india-rubber pear-shaped flask, communicating at its upper end with the bladder by means of a long india-rubber tube, and at the lower end with a glass receiver, into which fall the fragments extracted from the bladder.

This apparatus is bulky; the stream of water passes over a long distance, in the course of which the friction of the fragments weakens its force, and some air bubbles may penetrate into the bladder, which interferes with its regular action. To obviate all these inconveniences, Sir Henry Thompson has recently further perfected his own apparatus, in such a manner that the path of the staff to the glass receiver should be as short as possible; and yet, by an ingenious arrangement, the fragments should not be able to rise from the receiver into the bladder.

The apparatus consists of a stout india-rubber pear-shaped flask, the same size as Clover's, placed vertically (fig. 1. A). On the upper part is a tap (B), surmounted by a small funnel, used to introduce the water into the india-rubber flask. 2. At the lower end is a tube, which contains the novel additions—the tap and the glass receiver. The tap is thus constructed: Across the tube is placed transversely another metallic tube, with a large opening on the side towards the receiver. This tube projects a centimetre at D (figs. 1, 2, 3), and is intended to receive the end of the staff placed in the bladder. The new tap is contained in the interior of this fixed tube. This tap is hollow, and is provided with a large opening in one of its sides, so that when once the tap is *in situ*, its lateral opening faces that of the fixed tube which contains it, and the end opening exactly faces the opening D (figs. 1, 2, 3), in which the end of the sound is placed. 3. A spherical glass receiver (figs. 1 and 2 E). The metallic tube, on which the receiver is screwed, goes down into it, about two and a-half centimetres, taking a slightly conical form. The receiver is of a globular form, about six or seven centimetres in diameter. The spherical form has an object, which is, that at the moment the operator compresses the india-rubber flask, the fragments already brought down, insert themselves between the glass sides and the conical tube, and have no tendency to mount again into the apparatus, in consequence of the projection of this tube into the receiver. The mechanism of this apparatus is very easily understood. The staff is in the bladder. The

opening of the tube, which projects laterally at D (figs. 1 and 2) is easily adapted. If the tap now be turned, as in figure 1 (C), communication is established between the bladder and the hollow body of the reservoir. If, on the contrary, the same tap is turned as in the figure 3 (C), all communication is interrupted, and the apparatus can be removed without the efflux of a drop of water. Nothing is easier than to fill up the instrument with water; the upper tap, B (fig. 1), must be opened, the lower tap (C) closed, and water poured in by the funnel at the top. The water descends immediately into the glass receiver, fills the india-rubber flask, and drives the air completely out of it; the upper tap (B) is then closed, and the instrument is ready for use. It will be seen that this new apparatus is a great improvement on those which have preceded it; and even on the form, which is now in the hands of many surgeons, known as Thompson's instrument. The change in the situation and form of the lower tap economises six centimetres of distance for the fragments to traverse, which thus reach the glass receiver from the bladder by the shortest possible road. The current having less distance to travel, has a more direct and more powerful action on the fragments to be aspirated; consequently, the aspiration is now more perfectly made than it has hitherto been. The introduction of air into the bladder is absolutely impossible, since the washing-out current starts from the lower part of the apparatus, and the air bubbles, if any remained, would, from their density, reach the upper part. In consequence, also, of its small size, in comparison with Dr. Bigelow's apparatus, this instrument can be very easily adapted to the staff, without necessitating the smallest change in the position of the patient to be operated on.

CALVERT'S CARBOLIC ACID PRODUCTS.

Mr. Calvert has effected a useful improvement, by producing his solid blocks of Carbolic Acid. All risk of those distressing cases of poisoning by drinking this disinfectant, in its fluid form, can now be obviated. The acid is supplied in small blocks, in a solidified form, at a moderate price, one of which, being placed in the situation or utensil intended to be disinfected, slowly dissolves, and has the same effect as the liquid form of the acid. Messrs. Calvert have also sent us samples of their carbolic soap, tooth-powder, and carbolicised tow. Those who do not object to the odour of carbolic acid, will, doubtless, find both soap and powder useful in many affections of the skin and mouth; the carbolicised tow has taken its place as a valuable adjunct in surgical dressing.

ERRATUM.

In notice of Pure Carbolic Acid, October, p. 427, instead of Bowdler and Church, Bickerdike, Lancashire—read *Bowdler and Bickerdike, Church, Lancashire.*

MISCELLANY.

DISTINGUISHED VETERANS.—M. Chevreul, now in his ninety-third year, began his usual course of lectures on organic chemistry at the Museum of Natural History, Paris, on June 10th.—We read also in American exchanges that Dr. Oliver Wendell Holmes, in spite of his seventy years, is incessantly busy. He writes as much as ever, and is as interested in his duties at the Medical School. It is hinted that he intends to publish another volume.

ENGLISH AND AMERICAN INDUSTRIES.—The *Scientific American* says that the manufacture of cream of tartar has so developed in the United States that the imports of it from France have fallen in six years from 6,000,000 pounds yearly to none, whilst the price has been reduced from 32 to 24 cents. per pound. In like manner the imports of citric acid from England have fallen from 250,000 pounds yearly to 27,000 pounds last year, the price having

fallen to about one-half. In the case of borax the relations are even more completely reversed; for in consequence of the development of the borax mines in Nevada, England now appears as a buyer of crude and refined borax in the United States market, where she used to be the principal seller.

DRUG-EATING INSECTS.—It is remarked by Spence, in his *Natural History of Insects*, "that drugs and medicines, though often so nauseous to us, form occasionally part of the food of insects. A small beetle (*Sinodendrum pusillum*, F.) eats the roots of rhubarb, in which I detected it in the East India Company's warehouses. Opium is a dainty morsel to the white ants. On examining ninety-two chests of opium, part of a cargo saved from shipwreck, previously to reshipping them for China, thirteen were found to be full of white ants, which had almost wholly devoured the opium; and, what is still more extraordinary, *Anobium panicum*, F. (a coleopterous insect that preys naturally upon wood) has been known to devour the blister-beetle". Swammerdam, amongst his treasures, mentions "a detestable beetle", produced from a worm that eats the roots of ginseng; and he likewise notices another, the lava of which devours the bag of the musk. The cochineal at Rio de Janeiro is the prey of an insect resembling an ichneumon, but furnished with only two wings; its station is in the cotton that envelopes the cocoon. Previous to its assumption of the pupa, it ejects a large globule of pure red colouring matter; and, lastly, the cocoon that produces the lac (*C. Lacca*, F.) is, we are told by Kerr, in *Philosophical Transactions*, devoured by various insects.

BRAIN-WORK AND BRAIN-DEVELOPMENT.—According to the *Gazette des Hôpitaux*, MM. Lacassagne and Cliquet have examined, by the aid of the *conformateur*, the heads of 190 doctors of medicine, 133 rudimentarily educated, 90 illiterate, and 91 prisoner soldiers, with the following results:

Diameters.	Doctors.	Soldiers.		Prisoners.
		Educated.	Uneducated.	
Longitudinal . . .	85.29	81.97	79.13	81.10
Frontal . . .	48.91	43.65	42.35	41.12
Parietal . . .	52.58	49.66	50.27	49.90

There is thus a considerable difference in favour of the doctors, and this is especially marked in the frontal measurements. Moreover, the two sides of the head are not symmetrical; in the educated, the frontal region is more developed to the left; in the uneducated, the occipital region is more developed to the right. The head is larger (more developed) in the case of the educated than in those of inactive intelligence. Among the educated, the frontal region is more developed in proportion than the occipital; and if the difference is greater in the occipital it is very trifling, while among the illiterate it is considerable.

THE STUDY AND PRACTICE OF MEDICINE BY WOMEN.—Dr. J. R. Chadwick writes, in an article which has attracted much attention, in the *International Review*—The struggle of women to free themselves from the social fetters which have for centuries proved an obstacle—in most cases, an insuperable one—to their pursuit of knowledge, has of late been chiefly centred on the profession of medicine. The reason for this is not to be sought in any peculiar fitness of women to practise medicine, but must be attributed to the fact that in this direction their cause has found support in certain sentiments common to all civilized communities. The delicacy which led Queen Charlotte to employ a midwife while Dr. Hunter waited in the adjoining room among the ladies of the bed-chamber, and induced the Duchess of Kent to be delivered of Queen Victoria by the hands of Madame Siebold, has been steadily gaining in strength everywhere. There is, however, nothing very novel in the idea of woman's fitness to practise medicine, in some of its branches at least. The earliest records of the world's history bear testimony to occasional instances of the successful practice of medicine by women. Mythology corroborates the current belief in woman's capacity for this career by ascribing to the Egyptian Isis the duty of watching over the health of the human species,

and the discovery of several drugs. Among the Romans, Juno Lucina presided over childbirth and hastened delivery. Hygeia, the daughter of Esculapius, and Ocyroe, the daughter of Chiron, were learned in medicine. Esculapius is portrayed as followed by a multitude of both sexes who dispensed his benefits. As early as the eleventh century before Christ there existed in Egypt a college of physicians, who seem to have been of the sacerdotal caste, and were certainly of both sexes. The *Iliad* and *Odyssey* both refer to women skilled in the science of medicine; among the Greeks, Olympias of Thebes, Aspasia, and Agnodice were pre-eminent for their ability and medical writings. The skill of Agnodice is said to have been such as to have brought about the legal opening of the medical profession to all free-born women of the State. Phænarete, the mother of Socrates, was a midwife. Between the eleventh and thirteenth centuries several women acquired wide-spread renown as teachers in the great school of Salerno. In the succeeding centuries many female physicians held professional chairs in the Universities of Italy, especially that of Bologna. In this University, about the middle of the eighteenth century, 'there was an Anna Morandi Mazzolini, whose husband held the chair of Anatomy. It happened that he fell ill, and she, being a loving wife, sought to supply to him the place of his enfeebled powers. So she became an anatomist, and presently delivered his lectures for him from behind a curtain. She became famous, and was offered a chair at Milan, which, however, she refused, and remained at Bologna till her death, in 1774. Her anatomical models in wax are the pride of the Anatomical Museum at Bologna.' What, in brief, are the inferences to be drawn from the above historical summary? 1. That there is a wide-spread and ever-growing movement in all parts of the world in favour of allowing women to study and practise medicine. 2. That their claims for admission to the existing medical schools for men have in many instances been acceded to, even in countries like Germany, where there is no considerable number of applicants for the privilege. 3. That nowhere, except in Zurich during the two years of Russian invasion, have the predicted social, moral, or educational calamities befallen the colleges or communities. The testimony as to these points is full, authoritative, and unequivocal. 4. That the extent and force of the demand for the medical education of women in the several countries is in direct ratio to the general enlightenment of the people, finding its loudest expression in England, and notably in America. No observant person can fail to admit that all the larger cities of America contain many female practitioners, who, despite their general lack of attainments and proper qualifications for the profession of medicine, are on the average as well patronised as those of the other sex. We have reached that absurd stage—and the sooner we recognise it the better—when the burning question is no longer, Shall women be allowed to practise medicine? They are practising it, not by ones and twos, but by hundreds; and the only problem now is, Shall we give them opportunities for studying medicine before they avail themselves of the already acquired right of practising it? It is clearly the interest of the community to give to women the fullest instruction in accordance with the most approved systems and under the most eminent teachers; and also that their proficiency should be tested by the most rigid ordeals before they finally receive certificates. By a recognition of these certificates, and their comparative values, the community would be able to protect itself from the impositions of ignorant or fraudulent pretenders to medical knowledge.

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" B	12 0	—	" " D	—	9 0
" C	10 6	—	" " E	—	7 6
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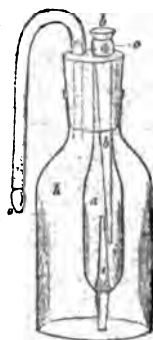
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The London Medical Record

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It is unnecessary to comment on such a mode of stimulating the demand for any Therapeutical Agent ; but the Importers of the Hunyadi János Bitter Water are compelled to expose it, as the mis-translation is calculated to cast doubt or discredit on the testimonial previously given by Professor VIRCHOW as to the value of the Hunyadi János Natural Mineral Water as an Aperient.

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The London Medical Record.

SÉE AND LICHTHEIM ON ANOMALOUS MUSCULAR ATROPHY.

WE publish the following cases together, in the hope that we may thereby aid in elucidating the clinical history of a group of diseases which at the present time is much in need of arrangement.

The first case is from the clinique of Prof. Germain Sée, and is reported by M. Debove (*Le Progrès Médical*, Nov. 9th, 1878).

D. F., aged 40, female, servant, was admitted Nov. 20th. Her family history was unimportant. She had small-pox at eighteen, and had had two children, one born dead, the other died of croup at the age of eighteen months. She had been well housed and fed, and had not had to do excessive work. Menstruation was regular, and till recently she had enjoyed excellent health in every respect. Her illness began three months before admission. She was taken suddenly with fever, and pains in the knees, extending on the following days to the thighs, legs, feet, and then to the hands. They were so acute that they made the patient groan day and night, and they interfered with her walking. The fever also continued, and to it may be referred slight delirium, which occurred at night. The patient affirmed that on the third day she began to notice a diminished volume in the legs and thighs. All these facts were confirmed by her master. On the 21st of November, her temperature was 39.5 at night. She was examined on the 2nd of December; the temperature then was, in the morning, 39.5 Cent. (103.1 Fahr.); evening, 40.2 Cent. (104.3 Fahr.); pulse, 124, strong, regular. Intelligence was intact; she answered questions very clearly. There was no œdema at the ankles; the colour of the integument was normal. The calves had quite disappeared; all the muscles of the thigh were atrophied, especially those anteriorly; the femur, anteriorly, seemed in relation with the subcutaneous cellular tissue; atrophy of the muscles of the buttock was less pronounced, but still decided; the muscles of the trunk were slightly atrophied. The upper arms were of normal size; the forearms were slightly atrophied; the atrophy only affected certain regions, the thenar and hypothenar eminences especially; the lesions were symmetrical in the upper as in the lower limbs. There was no affection of the muscles of the face or tongue, or of deglutition. Loss of power was proportional to the atrophy; she could move her legs in bed with great difficulty; she could not raise herself; if lifted up, she fell back again. The pressure she could effect with the hand was very feeble; the forearm being flexed, it might be easily extended, even when the patient was told to resist with all her force. There was no contraction; no trace of muscular contractility. Dr. Neumann examined the muscles with the following results. In the lower limbs, electro-muscular contractility was abolished. Stimulation of the popliteal nerves excited feeble contraction in the muscles supplied by them, but these latter did not contract when excited directly by faradic or galvanic currents. The thigh muscles did not respond to electrical stimulation.

In the upper limbs, there was no loss of electro-muscular contractility of the thenar and hypothenar muscles; diminution in the muscles of the upper arm, and particularly of the forearm. The pains in the lower limbs were less than at the beginning of the attack; they came on two or three times every hour, and remained about five minutes. Slightly energetic pressure of these parts made the patient cry out. There were no pains in the upper limbs; they occurred only at the beginning of the illness on one day. Sensation was perfect; the rectum and bladder were healthy; tongue dry, furred; appetite gone; spleen and liver normal; respiration easy; auscultation of the lungs revealed nothing particular; no painful points in the spinal column. The fever continued, with nocturnal delirium; the urine, examined once, contained no albumen. She died on the night of the 8th. A necropsy was made Dec. 10th. There was pneumonia (red hepatisation) of the lower two-thirds of the right lung. The subcutaneous adipose tissue was notably abundant. The muscles of the extremities were much atrophied, those of the thorax and abdomen less so; the muscles of the face, pharynx, and larynx were not examined. The muscular lesions were characterised microscopically by a considerable diminution in size, by a change of colour (dead leaf colour) the more pronounced as the atrophy was the more advanced. The affection involved the muscles of the limb *en masse*. The brain, cord, and nerves showed no lesion. Microscopic examination of the nerves and spinal cord was quite negative; they appeared perfectly healthy. The muscles were examined in different places, but especially in the anterior part of the thigh; the fibres were very slightly granular, but their striation was very distinct; they were reduced to about a third of their volume compared with normal fibres from the same region. The nuclei appeared more numerous than natural, but this may have been due to the great wasting of the parts. Comparing this atrophy with progressive muscular atrophy, there is an important distinction; in the latter, the lesions vary very much from one muscular bundle to another, or from one muscular fibre to another; here all the fibres in a section appeared to have undergone the same degree of atrophy, and recalled the appearance of the muscles of subjects wasted in consequence of long-standing diseases.

The second case is reported by Prof. Lichtheim of Jena (*Arch. für Psychiatrie und Nervenkrank.*, Band viii, p. 521). The patient, 42 years of age, was quite well up to 25, and had no hereditary tendencies to disease. In his 27th year, after very heavy work, the disease began by pains and weakness in the right arm. The disease progressed, with some intervals of temporary improvement, the right leg became weak and thin, and the left leg also became involved. He had giddiness, headache, and disturbances of vision. Latterly there appeared great emaciation of the right side of the thorax, accompanied by great pain. By and by, his gait became waddling, and the pelvis was tilted into the sagittal axis, the half above the supporting leg being raised, and the other half, corresponding to the advanced leg, being depressed (atrophy of the gluteus medius). Both scapulae stood out like wings, the right more than the left. The right half of the thorax looked retracted as compared with the left, and lagged in respiration. The pectoral muscles had disappeared; the shoulder-muscles, especially the right, were much diminished. The movements of the arms were restricted on account of the atrophy of the scapular muscles and of

the latissimi dorsi. Of the arm-muscles, only the flexors, biceps, brachialis anticus, and supinator longus, right completely, left partially, had disappeared. The glutei were atrophied; thence flexion and extension of the hip were interfered with. The faradic contractility was everywhere preserved, in accordance with the mass of unaffected muscular bundles. Degenerative reaction (*Entartungsreaction*) was nowhere observed. Sensibility was normal; also reflex irritability, etc. A purulent inflammation of the right ankle-joint gradually developed, together with phthisis, under which the patient succumbed in marasmus. Prof. Cohnheim performed the *post mortem* examination. The atrophied muscles appeared surrounded by thin yellow or pale red-coloured bands, which could only be recognised as muscular in structure by their longitudinal striation. No abnormality was to be discovered in the nerves or spinal cord. Microscopical examination showed that the muscles presented the characteristic appearances of progressive atrophy, while the nerves, anterior roots, and spinal cord, showed no change on the most careful examination. In the latter, the central canal was slightly widened from the 2nd to the 6th dorsal vertebræ, the maximum being 0.5 millimètre. The epithelium of the canal was not flattened, and both white and grey matter in that situation showed no change.

ROBERT SAUNDBY, M.D.

JENNER ON THE TREATMENT OF TYPHOID FEVER.*

ONE great value which this address possesses is, that Sir William Jenner has never before written a line on the treatment of typhoid fever, notwithstanding his many and valued contributions to the etiology and pathology of the disease. In the commencement of his remarks, Sir William asserts the impossibility of cutting short a case of typhoid fever by means of treatment. In treating cases it must be borne in mind, first, that the disease, in the majority of cases at least, is produced by the action of a small portion of the excreta from the bowels of a person suffering from typhoid fever; that air from a drain, or air blowing over dried feculent matter, may convey the poison to the patient, or his own fingers may carry it to his mouth, or that the vehicle for the poison may be a fluid—for example, milk or water; and, that the poisonous properties of the excreta may be destroyed by boiling the fluid in which they are contained, though not by filtering the fluid: secondly, that the natural duration of a well-developed case of typhoid fever is from twenty-eight to thirty days. By self-treatment, in the earliest stages of typhoid fever, the patient is prone to do himself great mischief, either by taking violent exercise, strong stimulants, or drastic medicines, according to his fancy. Many of the worst cases have appeared to owe their gravity to exercise taken at a time when the nervous system could ill afford any strain, and hence no typhoid fever case ought to be removed to a great distance if away from home. The diet should be liquids, with farinaceous food and bread in some form, if wished; broths with vegetable juices, strained fruit-juices, avoiding grapes on account of skins and seeds. Milk must be used with caution. If the curd be undigested great evils arise, and the patient is placed in jeopardy. "Do not forget that a pint of milk contains

as much solid animal matter as a full-sized mutton chop." What typhoid fever patient can digest two to four mutton chops *per diem*? A patient is weak from the fever and not from lack of food. Pure water may be given *ad libitum*. If the bowels be confined, use simple enemata. Small doses of mineral acids are grateful and perhaps beneficial. Thus, the fever is to be met by rest, quiet, fresh air, mixed liquid food and blood diluents, and by the exclusion of fresh doses of poison; the intestinal lesion, by the careful exclusion from the diet of all hard and irritating substances, and the removal from the bowels of any local irritant. Headache may be alleviated by either hot or cold applications, and ceases spontaneously in about ten days. Sleeplessness, also, generally disappears in the second week; still, if it be persistent, henbane, bromide of potassium, and chloral are valuable, alone or combined. With high temperature, a tepid bath or sponging the surface will often induce sleep. Opiates are to be avoided. No treatment can arrest or limit the specific changes in the intestinal glands; but over the diarrhoea, which usually accompanies these changes, we can, in many cases, exercise a decided influence by careful attention to diet as above directed, and avoidance of accumulation of undigested food. So long as not more than three to five actions occur in twenty-four hours, the looseness is rather advantageous. If the stools be found to consist of curdled milk the remedy is obvious; if too alkaline, dilute sulphuric acid sometimes affords marked relief; if very offensive, impalpable animal charcoal frequently acts as a charm. Sometimes constipation is present, with an extensive ulceration of the ileum; then, small-sized enemata of thin gruel every other day, are safer than large quantities less frequently. The most important and not unfrequent cause of inaction of the bowel in typhoid fever is *deep* ulceration of one or more Peyer's patches. Large superficial ulcers favour diarrhoea; a single small *deep* ulcer will paralyse the action of the bowel, a most important point to bear in mind. This state of things, too, is frequently the cause of excessive tympanitis, between the third and fourth weeks of the fever. Of all remedies, turpentine externally is most generally used at these times; but, in no case can Sir William Jenner say he has seen a diminution of the distension which seemed to be *propter hoc*. Charcoal to relieve fœtor, pepsin to promote digestion, alcohol in fit doses to improve nerve energy and so to increase the muscular power of the bowel, are each and all valuable in turn. A long tube passed up the bowel will often be the means of discharging large quantities of flatus. In intestinal hæmorrhage, if it be ever so small, the patient must be kept recumbent, and not allowed to make any effort when using the close pan. If he be unable to pass urine when recumbent, the catheter must be used. Starch enemata with ten to fifteen drops of laudanum at once, and acetate of lead with three to five drops of laudanum every two or three hours by the mouth, or gallic acid and iced water, are to be administered. It is highly requisite to keep the bowels empty, and, therefore, give essence of meat alone, and no milk. If the hæmorrhage be sudden, copious, and repeated, ergotine subcutaneously, with an ice-bag over the ileum, may be employed. The faintness due to hæmorrhage must not be removed by stimulants. Perforation is always fatal, in Sir William's experience. The value of treatment by cold baths has not carried conviction to the lecturer's mind. Both quinine and salicylate of soda, employed to reduce

* On the Treatment of Typhoid Fever. An Address delivered before the Birmingham Medical Institute (*Lancet*, Nov. 1879, p. 715).

high temperatures, have caused disappointment. Free action of the skin is often attended with great relief, and nothing assists this action so readily as a large warm and moist flannel, covered with oiled silk, applied over the abdomen and chest, combined with the administration of warm bland fluids. When, as in the later stages, the perspiration is profuse and exhausting, the patient must be lightly clothed and his skin wiped every few minutes, if necessary, with a warm napkin, and dry clothes placed between the wet linen and the skin. Alcohol must be given carefully to increase nerve-force, and sponging with tepid vinegar and water is sometimes of much service. To avert death from failure of the heart's power, alcohol is the great remedy. Delirium, due to fever, is never conjoined with headache; headache in typhoid fever may be most intense, delirium most violent, but the headache ceases before the delirium begins; if conjoined, we must look for that rare complication—intracranial inflammation. Alcohol is, as a rule, the remedy for delirium, but must be used with caution; seldom need more than twelve ounces of brandy be given in twenty-four hours to meet all the demands upon alcohol, and, if there be a doubt as to quantity, it is better, in typhoid fever, to give the minimum amount the benefit rather than the maximum; the reverse holding good in typhus fever. Tremor is sometimes excessive; in such cases it is almost always a symptom of *deep* intestinal ulceration. A small *deep* slough will be accompanied with great tremor; a large extent of superficial ulceration may be unattended by symptoms. Sir William Jenner concludes his most instructive address in these words: "While admitting without reserve that heroic measures, fearlessly but judiciously employed, will save life when less potent means are useless, the physician whose experience reaches over many years will, on looking back, discover that year by year he has seen fewer cases requiring heroic remedies, and more cases in which, the unaided powers of nature alone, suffice for effecting cure; that year by year he has learned to regard with greater diffidence his own powers, and to trust with greater confidence in those of nature."

R. NEALE, M.D.

ROBERTS ON DIGESTIVE FERMENTS AND THEIR THERAPEUTIC USES.

THIS was the subject of an excellent address delivered before a meeting of the Lancashire and Cheshire branch of the British Medical Association, at Northwich, by Professor W. Roberts, F.R.S., of Manchester, and published in the *British Medical Journal* on the 1st and 8th of November. Dr. Roberts began by pointing out that in digestion the albuminous and collagenous constituents of the food are liquified and converted into diffusible peptones, the starchy matters converted into sugar, and the fats emulsified and partly saponified. The agents concerned in this process are the various digestive juices—the saliva, gastric juice, pancreatic juice, bile, and the intestinal secretions, all of which owe their activity to the soluble ferments which they contain. To the first three of these digestive juices and their ferments, he directed attention.

Saliva.—This contains but one ferment—namely, *diastase* or *ptyalin*, the sole action of which is to convert starch into sugar. It acts energetically and rapidly upon gelatinised or cooked starch, con-

verting it first into dextrine, and afterwards, with the absorption of water, into glucose or grape-sugar; but it acts very slowly upon starch-granules. This is the reason why farinaceous articles of diet are universally cooked before being eaten. The action of saliva goes on in the mouth and gullet, and for a while after the bolus has entered the stomach; but its action ceases as soon as the food is thoroughly mixed with the gastric juice. In the case of a meal of farinaceous food, this arrest occurs long before all the starch is converted into sugar. Although it is often stated by physiologists that the action of the saliva is only suspended in the stomach, and resumed in the duodenum, Dr. Roberts doubts very much whether this is the case. From his own observations he has come to the conclusion that it is the pancreatic juice which takes up and finishes the work of converting the starch into sugar after the food leaves the pylorus. He found, by means of artificial digestion, that both saliva and malt-diastase became permanently inert after being in contact with artificial gastric juice for half an hour, and even when that was greatly diluted and when the proportion of hydrochloric acid did not exceed 0.05 per cent. This entirely agrees with the observations of M. Mourrut, who found that acid liquids delayed the action of diastase, and annulled the action of pancreatic, while alcohol retarded the action of both.*

When the digestion of the starchy matters is defective, some preparation of malt is given from its containing diastase. Those most commonly used now are the malt-extracts. The nutritive value of these preparations is low; they are little better as food than so much syrup. If properly prepared, malt-extract contains a large quantity of diastase, and has a high power of digesting starchy matter. But a large proportion of the malt-extracts now sold have no action on starch. This is owing to a too high temperature having been employed in their preparation. Any heat above 70 degs. Cent. (158 degs. Fahr.) destroys diastase in solution, so that if the extract be evaporated, as directed in the German Pharmacopœia, at a temperature of 100 degs. Cent. (212 degs. Fahr.), it is necessarily inert on starch. Out of fourteen trade samples of malt extracts examined by Messrs. Dunstan and Dimmoch, only three possessed the power of acting on starch. Dr. Roberts found the malt extracts prepared by Corbyn, Stacey and Co., the Kepler Malt-Extract Company, and the Maltine of the Maltine Manufacturing Company, all very active; and Trommer's malt-extract was found by Professor Redwood to act satisfactorily on starch. It is very important that the proper time for administering these extracts be chosen, otherwise they will have little effect in aiding the digestion of the starchy constituents of the meal. To get the full amount of work from a dose of malt-extract, it should be administered like natural saliva *with the food*, or, still better, *mixed with it* beforehand. Fortunately, the malt-extracts are very well adapted for this latter mode of administration, as they have a sweet and agreeable flavour, so that they may be used to sweeten farinaceous foods, or tea, coffee, and cocoa. The only precaution that has to be observed is, the food should not be too hot when the malt-extract is added. Food above a temperature of 65 degs. Cent. (150 degs. Fahr.) cannot be eaten or drunk, and at this heat diastase

* The results of M. Mourrut's experiments were communicated to the Académie de Médecine of Paris, on the 12th of August last.

is uninjured and highly active. The labels on malt-extract bottles invariably direct a dose to be taken after meals. This is evidently an error, as the action of diastase is arrested in the stomach.

Gastric Juice.—This contains two ferments—pepsin and curdling ferment. The former transforms albuminous and gelatinous materials into peptones. It is only active in presence of an acid, and the normal acid of the stomach seems to be hydrochloric acid, but there are also lactic, phosphoric, and citric acids, in smaller quantities present. The change seems to be simply a hydration of the native proteids. It does not seem to cause any complete change of the molecular constituents of the proteid, as indicated by the peptone being immediately depeptonised when it has been absorbed into the blood; that is, it is restored to the condition of serum-albumen. So quickly does this change take place, that no peptones can be found in the lacteals or the blood of the portal vein. One of the most striking properties of the gastric juice is its power of curdling milk. This property is independent of the presence of an acid, as it takes place in neutral and even slightly alkaline milk. Brücke prepared pepsin which was strongly proteolytic, but which did not curdle milk; and Benger, of Manchester, has found that a concentrated brine-extract of calf's stomach has intense curdling powers, but almost no proteolytic power. By these two sets of experiments it is shown that the gastric juice contains two ferments which have hitherto been included under the term of pepsin; one of these peptonises proteids in presence of an acid, the other curdles the casein of milk. The medicinal equivalents of gastric juice are the various pepsin preparations, the activity of all of which may be relied upon. These preparations should always be given immediately after food.

Pancreatic Juice.—This has at least four distinct kinds of action on food. 1. It converts proteids into peptones in alkaline media. 2. It curdles the casein of milk. 3. It transforms starch into sugar. 4. It emulsionises fats. The proteolytic ferment of the pancreas is called trypsin. It differs from pepsin in requiring an alkaline medium for the exercise of its powers, whereas the latter requires an acid medium. The difference between the two substances seems to consist in the facility with which they act on different kinds of proteids; as indicated by the fact that it is easier to peptonise milk by trypsin than by pepsin; again, egg-albumen is acted on more energetically by pepsin than by trypsin. In regard to their mutual action, it is found that when trypsin and pepsin are infused together in a quantity of water at blood-heat, they prove mutually indifferent, and retain their respective properties after being mixed together for three hours. If a portion of the mixture is acidified with a few drops of hydrochloric acid, the trypsin is speedily destroyed; but if a few drops of an alkaline solution be added to the other portion, the pepsin is as speedily destroyed. Further, trypsin is speedily destroyed in simple acid solution, and conversely pepsin is speedily destroyed in an alkaline solution when no trypsin is present. This shows that acid gastric juice is destructive to the proteolytic activity of pancreatic preparations; hence those preparations of digestive remedies recommended for containing the combined energies of gastric and pancreatic juices are compounded on erroneous principles, and they must have no action at all, or, if the one be rendered active, the other becomes inert.

The property of curdling milk has hitherto been

regarded as produced by the gastric juice, but Dr. Roberts finds that all extracts of free pancreas possess this power, and that the action occurs both in neutral and in alkaline milk.

The pancreas is very rich in diastase—an aqueous solution of the gland was found to have about ten times the starch-converting properties of the best malt-extracts. The emulsifying properties of pancreatic juice have long been known, and Bernard has shown that they depend upon the presence of a special ferment, and not on the free alkali of the secretion. The medicinal equivalents of pancreatic juice are the emulsion and pancreatine. The first, Dr. Roberts found to contain no active ferments; they probably had been destroyed by too great heat having been used in manufacture. The preparation which he prefers, and thinks will prove to be the most valuable, is the simple aqueous extract, which he calls liquor pancreaticus. When given with the food, the pancreatic preparations act powerfully on the starchy constituents of it; but this action ceases when they enter the stomach. In order to obtain this proteolytic action without interfering with gastric digestion, Dr. Roberts recommends that a drachm of the liquor be given with twelve or fifteen grains of bicarbonate of soda, one and a half or two hours after a meal, when gastric digestion is nearly complete, and the last portions of the food are passing into the duodenum. At this time there is generally a superfluity of acid present in the stomach, and the alkali does good in neutralising it. When given in the manner described, and at the end of digestion, Dr. Roberts believes that the pancreatised preparations can be conveyed into the duodenum. However useful pancreatic extracts may prove to be for administration by the mouth, he anticipates more important results from their employment in the preparation of peptones and peptonised aliments, to which he calls special attention.

Peptones as Food.—Digesting food artificially for the sick has hitherto not been attended with success, because that process destroys the grateful odour and taste, and the inviting appearance which makes food desirable, and converts it into a nauseous mass, from which the patient turns away in disgust. This is not due to any ill taste or smell inherent in the peptones themselves, but to various by-products and volatile acids, the result of the digestive process. Milk which is completely peptonised is rendered unfit for food; fortunately, however, milk can be fractionally peptonised, that is, three-fourths or four-fifths of its casein can be converted into peptones without materially diminishing its agreeable qualities as food. It requires to be digested for about two and a half hours before it is completely peptonised. The greater part of the casein, however, is converted into peptone soon after the commencement of the process, and it takes a disproportionately long time to convert the remainder. After repeated experiments, Dr. Roberts found that two-thirds of the casein was converted in the first half-hour, and three-fourths in the first hour; and that it took an hour and a half longer to convert the remaining one-fourth.

The series of changes do not cease with the completion of the process, but the milk continues to deteriorate, till in a few hours it becomes bitter and nauseous. The changes can, however, be arrested at any point, or at any time, by simply heating the milk to the boiling point. The activity of the ferments is at once destroyed by the high temperature,

and no further changes take place in it. In preparing peptonised milk for invalids or infants it is desirable to avoid curdling, which always takes place when pepsin or trypsin is added to pure milk. This can be done by mixing it with from one-third to half its bulk of water. Another advantage of dilution is that it greatly hastens the digestive process. The plan of procedure which Dr. Roberts recommends for the preparation of peptone for food, is as follows. Dilute a pint of milk with half its bulk of water, and then heat to about 66 degs. Cent. (150 degs. Fahr.), or, to avoid having to use a thermometer, dilute cold milk with an equal bulk of boiling water. It is then to be put into a covered jug with half an ounce of liquor pancreaticus, as that is the best material to use for the purpose, and twenty grains of bicarbonate of soda (in solution). The jug is then to be placed in a warm place under a "cosey" for one hour. At the end of this time, the milk is at once to be heated to the boiling point. After that it can be used like other milk, only it should be used within twelve hours, as it decomposes after that time. A very useful milk gruel can be made by adding to half a pint of cold milk, in a jug, half a pint of well-cooked boiling gruel. This gives a temperature of 49 degs. to 54 degs. Cent. (120 degs. to 130 degs. Fahr.) To this add two drachms of liquor pancreaticus, and the same quantity of a saturated solution of bicarbonate of soda (which contains about 10 grains). Put the jug under a "cosey", and heat to boiling at the expiration of an hour. This gives a preparation similar in design to Liebig's food for infants, but in which the proteids, as well as the amylacia, are digested. Dr. Roberts has used these partially digested articles of diet for some time, with very satisfactory results. He has seen repeatedly that partially digested milk remains on the stomach when nothing else would remain; and he has also seen this food tolerated without pain, when all other food caused pain. J. G. GARSON, M.D.

PECKOLT ON CARICA PAPAYA AND PAPAYOTIN.*

THE papaw tree belongs to the family of the Papayaceæ, which in Brazil is represented by only two species. The trees are diœcious and hermaphrodite. In Brazil the tree is scarcely cultivated, or with but little care, its continued planting, like that of the banana, being self-effected; but with this difference, that, instead of shoots from the roots, it is done by the seeds of the fruit rotting on the ground. The tree is simply left to stand where the seed has been planted, either by the use of the fruit as manure or by the agency of birds; the tender young plants brave all weathers and are very tenacious of life, are not eaten by animals, and after becoming ten inches high are not prevented by injury to leaf or bark from growing luxuriantly and almost perceptibly to the eye, even more rapidly than the banana. The fruit, like the banana, is collected in the full grown, but still green condition, so as to ripen in the house. If perfectly ripe when taken from the tree the flesh, especially in the neighbourhood of the skin, is bitter; moreover, the ripe fruit is difficult to secure against destruction by birds. During my seventeen years'

residence in the interior of the province, from 1851 to 1868, I examined almost the whole of the Brazilian fruit and food plants; this work is published by Messrs. C. and H. Laemmert, under the title *As Plantas nutritivas e do goso do Brasil*. In my manuscript of 1868 occurs the examination of the fruit, seeds, and milk of the *Carica Papaya*, and the discovery in the milk of a white amorphous substance, which in my notice I described as "papayotin". This same substance I found also in the leaves, and, although I knew that the leaves had been used from time immemorial by the Indians for rendering meat tender, it did not occur to me that my "papayotin" might be a pepsin-like substance, until I saw in the Austrian Society's Journal, a short time since, notices of the work of Herr Wittmack and Dr. C. G. Roy, which induced me to look up my notes and make some experiments with papayotin; when I found the solubility of meat in a solution of papayotin confirmed, and therefore publish my investigation. I do not thereby make the smallest claim to priority, and do not even desire that the name should be adopted, but only to invite a further and more perfect investigation of this interesting substance, and by the making known of my own imperfect experiments to become useful as a guide and to save several useless experiments.

Analysis of the Fruit.—In 100 grammes of fresh fruit, freed from rind, taken from the three kinds of "mamao", I found the following substances:—

	1. Mamao femæa.	2. Mamao melao.	3. Mamao macho.
Caoutchouc-like Substances	—	—	0.046
Soft Yellow Resin	0.165	—	—
Reddish Yellow Fat	—	0.020	—
Albuminoid Substances	1.070	0.500	0.753
Sugar	3.238	3.580	4.333
Pectinous Matter	1.315	—	—
Tartaric Acid	combined with Bases { 0.075 0.020 0.083 }	0.480	2.332
Citric Acid			
Malic Acid			
Dextrin, Extractive Matter, etc.	5.503	—	—
Water	85.351	92.500	89.445
Cellulose	3.180	2.920	3.091

100 grammes of fresh fruit flesh of the "mamao femæa" gave 1.239 grammes of ash, and 100 grammes of it dried gave 8.457 grammes. In a kilogramme of pure ash from the flesh of the fruit I found—

Carbolic Acid	140.945
Chlorine	56.013
Sulphuric Acid	52.401
Phosphoric Acid	71.573
Soluble Silicic Acid	165.340
Insoluble Silicic Acid	5.423
Ferric Oxide	19.504
Manganous Oxide	0.277
Alumina	38.576
Lime	23.438
Magnesia	47.878
Potash	63.248
Soda	315.332
Loss	0.007

The milky juice, which is contained in the unripe fruit in considerable quantity, disappears upon the ripening of the "mamao macho", or hermaphrodite, fruit almost entirely, and then there is found in the flesh of such fruit traces of a caoutchouc-like substance, which doubtless originates from the small quantity of milk. On the other hand, the milk disappears from the fruit of "mamao femæa" papaw

* *Carica Papaya* and *Papayotin*. By Theodore Peckolt. (*Zeitschrift der Allg. Österreichischen Apotheker-Vereins*, vol. xvi, pp. 361 and 373, Aug. 30, and Sept. 1, 1879; and *Pharmaceutical Journal*, Nov. 1, 1879.)

bearing *mamao*, and "*mamao malao*", female *mamao*, entirely on ripening, but the caoutchouc-like substance is in the "*mamao femea*" replaced by a yellow soft resin, and in the cultivated "*mamao melao*" by a dark reddish-yellow fatty oil. Both the latter sorts have a more delicate taste, and the "*mamao melao*" has actually a melon flavour. However, it is not to be denied that the taste is insipid and not particularly refreshing, as the prized free acids are entirely wanting in the fruit and only a trace of an aroma is present. The milk in the ripe juice is rich in free acid, but this disappears in the ripening. The seeds are frequently used as a vermifuge, and information as to the manner of administering them will be given at the close of this paper. The examination of the seeds was unfortunately not completed; they deserve a perfect analysis, for which I can supply sufficient materials.

In my notes I have the following entries. I. 500 grammes of dried powdered seeds were repeatedly extracted with 90 per cent. alcohol, distilled, and the residue treated with hot distilled water as long as the water was coloured. Residue insoluble in water (A). The watery solution, evaporated to the consistence of a thin syrup, and allowed to stand some time, yielded 0.803 gramme of crystals, which proved to be a compound of lime with an organic acid. The mother-liquor upon evaporation gave 2.250 of extractive, having an unpleasant taste, and coloured dark brown by perchloride of iron. The residue, insoluble in water (A), consisted of an oil containing resin. It was carefully separated from the resin, and weighed 73.333 grammes; it was of a dark brown colour, and of the consistence of castor-oil, odourless, and having a disagreeable flavour, with long persistent acrid after-taste. In ether it was only partially soluble, and was preserved for further investigation as *papaya oil*. The resin weighed 8.833 grammes, and formed a tasteless and odourless dark brown powder. II. 500 grammes of finely pounded seeds were digested in a still at reduced pressure with caustic potash and 80 per cent. alcohol, strained and pressed; and the residue again treated in a similar way with alcohol. The united liquor was filtered and distilled, then evaporated to about 800 grammes, when the separation of crystals was noticed, and in consequence it was set aside for a time. It was then separated from the crystals, further evaporated, and allowed to stand for a longer time in a cool place. No crystallisation or other separation was noticed, and it was now warmed and saturated with acetic acid in small excess. After a long time a brown oil separated; removed from this, and carefully further evaporated, a dark brown resin separated, which will be described further on. The liquid was separated from the resin and repeatedly shaken with ether. The ethereal solution evaporated gave 2.315 grammes of an oil-like substance, having a peculiarly disagreeable taste and smell, which was easily soluble in ether and alcohol. Heated upon platinum it burnt with a smoke irritating to the eyes, and clear flame, and left no residue. This was preserved for examination as *caricin*. The liquid separated from the ether was evaporated and gave 14.722 grammes of a nauseous-tasting extract. The crystals, etc., weighing 3.704 grammes of a dazzling white fat acid, similar to palmitic acid, were preserved as *carica fat acid*. The oil β , weighing 38.426 grammes, behaved similarly to the *papaya oil* obtained in the first experiment. III. 500 grammes of finely pounded seeds were treated with caustic lime and distilled water as in the prepara-

tion of *santonin*. The impure precipitate thrown down by acid was dissolved in alcohol and evaporated, then treated with boiling water, and separated by filtration from resinous substances. The watery solution, evaporated to a syrupy consistence and stood in a cool place, yielded, after a long time, granular crystals, which when dried weighed 1.722 grammes. Heated upon platinum, the substance melted to a clear liquid and volatilised, leaving only a trace of a black residue. In cold water it appeared insoluble, in boiling water and in cold alcohol soluble. The solution scarcely reddened litmus paper, and it had a cold bitter taste. It was preserved as *papayic acid* (?). The resin acid was purified by repeated solution in alcohol, and formed after evaporation a brownish substance that could be rubbed to a light brown powder. This had a bitter taste, with a pepper-like biting after-taste. On platinum, it burnt, with a smoke irritating to the mucous membrane, to a small carbonaceous residue. It was insoluble in water and ether, and readily soluble in alcohol and alkalies. From a solution of carbonate of soda it was precipitated by acids in yellow flocks. The alcoholic solution of the resin slightly gelatinised with ammonia; it gave with acetate of copper a dark green precipitate, and with acetate of lead and tincture of galls no reaction. Preserved for further experiments as *papaya acid resin*. IV. 100 grammes of dried seed powder were extracted with ether, alcohol, water, acids, and alkalies, and besides the above-mentioned products there was obtained 0.220 gramme of soft resin, very similar to the soft resin found in the flesh of the fruit of "*mamao femea*". The fatty oil was yellow coloured, and by ether only 5 per cent. of oil was obtained from the seeds. The oil, the so-called "*caricin*", and the resin acid, were used against intestinal worms; all three products were active, but the most favourable results were obtained with the resin acid in doses of from 0.02 to 0.04 gramme.

WATSON ON THE EXTERNAL ORGANS OF GENERATION IN ANIMALS AND IN HERMAPHRODITES.*

WHILST the comparative anatomy of the internal genital organs has thrown much light on the nature of foetal relics in those structures in our own species, the study of the external genitalia in the lower animals is of particular interest in the explanation of complicated forms of hermaphroditism. Their structure and variations, however, explain rather than prove; for, as Professor Watson remarks, the only true reliable sexual characteristic is the nature of the genital gland. If that body display the characters of a testicle, the subject is a male; but, on the other hand, if it be histologically an ovary, the so-called hermaphrodite is strictly female.

Early in foetal life, in our species, the cloaca becomes divided into two parts by a partition. The posterior division, representing the portion of the sac of the allantois which communicates with the alimentary canal, now becomes the outlet of that canal, an invagination and subsequent opening of the integument forming the anus. Every surgeon knows that any degree of arrest of this process of development, from absence of the rectum to simple

* The Homology of the Sexual Organs illustrated by Comparative Anatomy and Pathology. (*Journal of Anatomy and Physiology*, vol. xiv, p. 50.) See also LONDON MEDICAL RECORD, Nov. 1879, p. 449.

atresia ani, may exist without any malformation of the genitals. The anterior division of the cloaca is the genital fissure. A projection buds from its front part; this is the penis or clitoris. The margins of the genital fissure in the male coalesce, receive the testicles, and become the scrotum; in the female, they do not unite, but remain apart as the labia externa. The projection, too, in the male, closes inferiorly, a part of the urethra running between the first formed or budding, and the inferior or coalescent portions. Hence the spongy portion of the urethra and the corpus spongiosum are added on to the primitive organ. In the human female, this organ remains undeveloped. Its lower surface is grooved, and the margins, not coalescing, become the labia minora. Hence, in women there is no spongy portion of the urethra. Close to the base of the genital member a gland is developed on each side. The pair are Cowper's glands in the male, Bartholini's in the female. Professor Watson considers them to be important landmarks in determining homologies.

The female urethra, which has the vagina behind it, represents the upper portion of the prostatic part of the male urethra which bears the verumontanum on its floor. On this eminence lies the vesicula prostatica, the homologue of both uterus and vagina. Between the female meatus urinarius and the orifices of Bartholini's glands is the vestibule, representing that part of the male urethra which lies between the vesicula and the openings of Cowper's glands; in short, the vestibule is homologous with the lower part of the prostatic, the whole of the membranous, and a short segment of the spongy part of the urethra. The extreme shortness of the vestibule in woman, compared to the length of its homologue in man, is remarkable; but in many animals it is very long, and its homology is therefore much plainer.

The homologies of the external male organs are elucidated by comparative anatomy and by teratology. In the penis of the opossum we see, among mammals, the closest approach to the female homologues of its constituent parts, for not only does the glans remain bifid, but the corpus spongiosum is double throughout life, closely resembling the vaginal bulbs. Non-coalescence of the margins of the genital fissure in men exists as the deformity termed hypospadias; but here the floor of the urethra is deficient, which is not the case in the opossum. In the most extreme forms of hypospadias, the whole of the spongy part of the urethra is practically absent, its upper wall alone remaining as a groove along the lower border of the penis. This member is in such instances very small and ill-developed, resembling a clitoris; the bulb is absent, and represented by two folds like the female labia minora; the testes are undescended; and the scrotum is undeveloped, two external labia existing in its stead. Yet the internal organs retain the male type. Between the labia minora a *cul-de-sac* may be sometimes found, an involution of integument made to meet a vagina which does not exist. A little reflection on this extreme form of hypospadias shows, as Professor Watson remarks, "that the narrow elongated uro-genital canal of the male may be occasionally transformed into the characteristic vestibule of the female". The deformity constitutes transverse hermaphroditism, the inner parts being male, the outer female.

The homologies of the vestibule in the human female are thus made more clear when the elements of the male organ are imperfectly developed. It is

the shallowness of the vestibule that makes comparison so difficult, since it is but one inch deep, the vagina measuring about six inches. But science again clears the difficulty, as it does in the case of males. In many animals the vestibule is very long. Owen has shown that in the American monkeys it equals in length the vagina. It is in these animals, too, that the clitoris is of great length; in the spider-monkeys it is pendent, and closely resembles a penis, but it remains simply grooved underneath, as in some cases of hypospadias in man. In some of the lemurs, the groove of the clitoris closes in below; this is also the case in the mole, and in some rodents. Thus that organ serves for micturition like a penis. In the hyæna, the urethra traverses the clitoris also, and its floor is not formed by a mere coalescence of the margins of the groove in the upper part, but actually of what in other female animals would be the nymphæ. The whole organ is elongated and pendulous, and provided with a prepuce, closely resembling the penis of a male hyæna. But the erectile tissue of the vaginal bulbs remains bilateral in the female.

Again, in human female monstrosities, the clitoris is sometimes found to be abnormally grooved beneath and largely developed. By the pure light of science a large clitoris is merely a sign of inferior type, just as certain ape-like characteristics are sometimes seen in man, even among civilised races and refined individuals. A careful study of Professor Watson's paper ought to correct certain mischievous and repulsive ideas still prevalent in the medical profession, and more than once the cause of discreditable practices among its members. It seems to us as illogical and unfair to attribute enlargement of the clitoris to bad habits, as it is to explain the traditionally violent sexual instincts of the male goat to the fact that his vesicula prostatica is much more like a female uterus and vagina than that of any other male animal. None of the variations in the organs of normal animals, as described above, bear any relation to the variations in their sexual appetites.

Professor Watson concludes his highly instructive monograph with remarks on the more complicated varieties of hermaphrodites, basing the determination of sex, as we have already observed, entirely on the presence of ovaries or of testicles.

ALBAN DORAN.

RIVA AND SEPPILLI ON PHYSICAL DISEASE IN THE INSANE.

IN the *Rivista Sperimentale di Freniatria e di Medicina Legale*, anno v, fascicolo iii, 1879, Drs. Riva and Seppilli give the results of their recent researches on this subject; details and cases will shortly be published in the *Annali Universali di Medicina*. The observations now recorded relate only to certain diseases of the organs of respiration and digestion. The symptoms of ordinary diseases, as seen in the insane, often differ materially from those commonly met with in the sane. Very little attention has hitherto been paid to this interesting subject, from which many instructive lessons are to be drawn. The subjective symptoms of disease often remain in the insane entirely in abeyance; when any are present the statements of the patient are often not to be relied upon, so that the physician must depend for his information entirely upon ob-

jective symptoms, and very commonly experiences considerable difficulty in observing even these.

Croupous Pneumonia.—Rigors, pain, and expectoration are often entirely absent, but fever is always present, and mostly follows the usual course; variations were, however, observed in some cases, periods of defervescence alternating with the pyrexia, while the morbid process remained stationary; or the return to the normal temperature being accomplished very gradually. The intellect was either quite uninfluenced by the disease, or underwent a merely temporary improvement. Death was the most frequent termination. This is ascribed to the adynamic form in which the disease always appears in the insane, and to the tendency which the inflammatory process always shows to extend, with consecutive hyperæmia and collateral œdema. The conditions unfavourable to prognosis are: 1. The extension or bilateral nature of the disease; 2. A temperature of 104 deg., with a pulse of 130 to 150, and respirations 40 per minute; 3. Complete absence or great scarcity of expectoration; 4. Falling of the temperature to the normal level, while the objective signs of a pneumonia in progress remain.

Hypostatic Pneumonia.—This form is much more common, affecting chiefly the aged, paralysed, and demented, who pass much of their time in bed, or in some one position. It is to be regarded as the result of a long-continued passive congestion rather than as a true inflammatory process. It is very apt to run its course unobserved, without giving rise either to cough, expectoration, fever, or frequent respiration.

Pulmonary Gangrene.—The authors differ from Guislain, who considered that this affection was only met with in sitophobic, and consequently melancholic patients. They believe rather that, as in the sane, the disease may be due to various causes; e.g., predisposing—altered condition of blood, diminished vital power, enfeebled innervation; exciting—embolism, passage of food into the air-passages, etc.

Pulmonary Phthisis.—Death from this disease is found to be far less frequent in Italian asylums than in those of other European countries or the United States. Insanity and phthisis may be developed contemporaneously, or either may ensue as a result to the other. Among the insane it is more common in cases of depression and of mental decay than in insanity of an exalted kind. In some cases, pleuralgia, nocturnal sweats, persistent cough, and gastro-enteric disturbance, were all found to be entirely absent. Careful thermometric observations were made in fifteen cases with the following results. 1. At certain periods, when the morbid process was presumably stationary, there was absolutely no fever. 2. In most cases, temperature was normal in the morning and slightly elevated in the evening; in others, it reached from 102 to 105 degs. at night, with remissions of 2 or 3 degs. in the morning. 3. Approaching death is indicated by a rapid fall of a previously very high temperature, by oscillations of temperature, for several days, between limits below the normal, by a temperature remaining high with only slight remissions, and reaching sometimes as high as 107 degs. The writers do not believe in the kind of metastasis which has been described as existing between phthisis and insanity, according to which, when one develops the other is arrested. When phthisis exists in a lunatic it follows its fatal course, while the mental disorder, which is usually manifested by delusions of persecution, either re-

mains stationary or becomes gradually worse. Though almost all other symptoms of lung-disease may be absent, loss of body-weight and feverishness at night are always present, and should never be overlooked.

The insane are specially liable to diseases of the alimentary tract, owing to the existing disturbances of innervation. Mastication is either performed imperfectly or not at all; the saliva is often altered in quantity and quality; the gastric juices are often insufficient for the work thrown upon them. Intestinal digestion is subject to similar unfavourable conditions, and is further disturbed by insufficiently elaborated substances being passed on from the stomach. The sensation of satiety is, in many of the insane, more or less absent. The result is the introduction into the stomach of food far in excess of the digestive powers; abnormal fermentation of the ingesta takes place, and this, being often repeated, is a frequent cause of gastro-intestinal catarrh. The authors believe that another frequent cause of enteritis in the insane is decomposition of the fæces, which are often retained for a great length of time in the intestines. Reasons are given for the belief which is expressed, that no trustworthy statistics are at present obtainable as to the frequency with which enteritis causes death in asylums.

Acute Enteritis.—Mild cases, such as in the sane are unaccompanied by fever, and ascribed to disturbances of digestion, often entirely escape observation in the insane. They are frequently due to exposure to cold. Fever is always present, though in varying degrees, according to circumstances. The disease often commences with a sudden elevation of temperature to 103 or 104 degs., which, however, quickly falls again nearly to the normal, and is followed only by slight rises every evening for a few days longer; in other cases, defervescence is more gradual. In cases which are due to abnormal chemical changes in the ingesta, the disease commences with slight evening elevations of temperature, but the latter never reaches any considerable height. The more severe cases of this nature have been described as "gastric fever"; the temperature curve at first greatly resembles that of typhoid fever, for the maximum is reached by moderate daily elevations of the evening temperature. After the crisis, however, the small daily oscillations which occur in typhoid fever are not seen in enteritis, the remissions are more marked, and defervescence is quicker. The similarity existing between severe enteritis and enteric fever is ascribed to the fact that, in both diseases, the follicular structures in the intestines are directly involved. In two-thirds of the patients treated for acute enteritis, subjective symptoms were entirely wanting; fever and diarrhœa were the only symptoms.

Chronic Enteritis.—This consists simply in a continuation of the symptoms of a previous acute attack. Loss of body-weight was always observed. Appetite generally remained good, and was sometimes increased. In robust constitutions, the temperature was always somewhat above the normal, with occasional greater elevations; in feeble patients, the temperature hardly reached as high as the normal level, and was often considerably below it. In some cases, local temperatures were taken over different regions of the abdomen; the results confirm those of Peter and others. The abdominal temperature was always above the average, and was sometimes higher than that of the axilla or the rectum. The colon was found to be

the most frequent seat of lesion; when the disease extended above the ileo-cæcal valve, all the symptoms increased greatly in severity. The writers frequently noticed, during the course of enteritis, an improvement in the mental condition, the patient recovering a certain degree of intelligence, or, at least, of tranquillity. In some cases, however, no improvement took place; and, in others, the mental symptoms became worse.

Enteric Fever.—The authors incline to the view that the insane possess a peculiar power of resisting the poison which gives rise to this fever; but the evidence they bring forward in support of it is of the slightest. As in other accidental diseases of the insane, subjective symptoms are often more or less completely absent, so that the disease is often fully developed before it attracts attention. The usual temperature curve is observed, with the exception that one or more very marked remissions generally occur. This latter fact often renders diagnosis difficult, especially when, owing to the patient's excitement, a proper physical examination cannot be made, the general condition of the patient often seems to indicate pulmonary or meningeal disease. Previous researches have shown how frequently enteric fever exercises a beneficial effect upon the course of mental disorders; the cases observed by the authors of the present paper were too few in number to admit of trustworthy conclusions on this subject being drawn from them.

C. S. W. COBBOLD, M.D.

GRIFFITH ON CRUDE PETROLEUM IN PHTHISIS AND BRONCHIAL AFFECTIONS.

DR. M. M. GRIFFITH, Bradford, Pennsylvania, writes in *New Preparations*. Dr. M. Milton of Bradford several months ago called the attention of the medical profession to the wonderful efficacy of crude petroleum as a remedy in consumption and bronchial affections generally. I have now prescribed the pills made from the "dried"* crude in about fifty cases with the most satisfactory results. Bronchial and laryngeal troubles are relieved from the beginning of the first dose. In consumption, it has afforded more satisfaction than any other remedy that I have tried; in several cases of what might be termed incipient phthisis, it has effected a permanent cure to all appearances. The crude petroleum is a popular domestic remedy in the oil country for most of the ills that flesh is heir to, but more particularly for coughs, colds, and bronchial troubles generally. The profession will be slow to adopt so simple a remedy as crude petroleum in consumption; but, from the testimony now in my possession from a great number of my medical friends outside the oil country, I have no hesitancy in calling the attention of the profession to it as one of the very best means of cure in any curable case of phthisis pulmonalis. The only difficulty I have found has been the difficulty in getting patients to use the medicine in

the shape of pills, and the nausea they frequently produce; but by perseverance this is easily overcome. The article which I usually prescribe is found incruusted on the bottom of the tanks, and has the consistency of putty, and is easily made into pills by incorporating it with any vegetable powder. The size of the pills is three to five grains; one pill from three to five times per day. The cough and soreness of the lungs are speedily relieved, the night-sweats diminish gradually, the appetite improves, and flesh is increased. Out of the fifty cases in which I used it, only three derived no particular benefit. They were cases that had about exhausted the *materia medica*, and would not persevere. I have kept notes of twenty-five well marked cases of incipient tuberculous consumption of the lungs, nineteen of which I considered cured, three of which are now under treatment, the balance I have lost sight of. I have no confidence in it in advanced or confirmed consumption, where vomicae have already formed.

I think it acts by preventing inflammation in the lungs, thereby retarding any further destruction of the lung-tissue. It may act specifically on the disease, but I will leave this for others to investigate. It has acted in my hands like many other medicines that I could not tell how, but that it does do it I know. It has proved beneficial in cases of asthma. It has no effect on nasal catarrh, ozæna, etc.

SHOEMAKER ON THE USES OF CERTAIN OF THE OLEATES IN SKIN-DISEASE.

DR. J. V. SHOEMAKER (*Medical and Surgical Reporter*, Philadelphia, June 21st) confirms the favourable experience of London practitioners, and adds some useful observations. In illustration of the many advantages over ointments, it was alleged that oleic acid possessed solvent powers that were more active than most bases of ointments, and consequently, the chemical combination so formed would be more potent when applied to the skin: further, that the oleates would not decompose like ointments, and would on this account be more effective, and not act as irritants to the skin; that the oleates prepared either as a five or ten per cent. solution are all, with the exception of the oleate of zinc, in the liquid state, and would, therefore, have a greater absorbent power. They would also penetrate deeper and more rapidly into the tissues than ointments. And lastly, as they are of a liquid condition, with one exception, they would be better suited for application over the scalp, the beard, the axillary and pubic regions, or any hairy parts of the body, in preference to ointments, which frequently mat together the hairs. Dr. Shoemaker says:

I have frequently had occasion to apply the oleates as external remedies in the treatment of skin-affections, with the most happy results. I may first mention that the oleate of atropia (one grain of the atropia to the ounce of oleic acid) exerts a marked influence in arresting the abundant secretion of seborrhœa, and in subduing high inflammatory action in severe cases of erysipelas. Secondly, I have observed that a 40 per cent. solution of the oleate of mercury, with the addition of a small quantity of olive oil, and scented with some essential oil, is an invaluable application for general thinning and loss of hair. When brushed lightly over the scalp in the above condition, it produces both a tonic

* "Dried" is hardly the proper expression. I send you by to-day's mail a sample of the crude petroleum that I find at the tanks and such as I have generally used, as it concretes or solidifies on the rods or tubing of the wells. You can substitute the term solidified or whatever term you think best. I am at a loss to find a term that properly expresses it. The mass I send you can be made into a pillular mass by the addition of any medicine thought beneficial in the case, Dover's powder or anything else. I have sometimes used powdered soapwort root to solidify it. Any other vegetable powder would answer.

and an alterative effect upon the part. I have also employed as an application, with great success, a two-ounce solution of the oleate of mercury, of 10 per cent. strength, mixed with an equal quantity of olive oil, in psoriasis and pityriasis, after all the scales and redness have disappeared. The use of this preparation in these affections protects and soothes the hyperæmic skin, and prevents a return of the diseased condition.

Mr. L. Wolf, pharmacist and chemist, of Philadelphia, has lately made for me, after many tedious experiments, two additional preparations of the oleates, namely, the oleate of lead and the oleate of bismuth; and I believe I have been the first to use these remedies as topical applications in cutaneous affections. The former of these agents, the oleate of lead, is manufactured by adding liquor potassæ to a diluted preparation of liquor plumbi subacetatis, and the precipitate collected on a filter and dried. The dry oxide of lead should then be dissolved in oleic acid, by means of the water bath. The strength of the solution should be 5 per cent. of lead oxide to the oleic acid, and as free as possible from stearic and margaric acids, in order to have it in the liquid form. Should either the percentage of lead be increased or the solution contaminated by stearic or margaric acid, the oleate will be semisolid, and will not have the same efficient action.

The oleate of lead, if prepared with care, in the manner I have indicated, is an opaque oily liquid. It is a mild astringent, more readily absorbed than either Goulard's cerate or Hebra's litharge ointment, while it possesses the advantage of neither decomposing or turning rancid. I have obtained remarkably good results from its use in eczema, in rosacea, after depletion of the parts, in burns and erythema. It arrests morbid discharges, protects the surface, and by its astringent and sedative action allays irritation.

The oleate of bismuth, an oily brown liquid, the second one of these new preparations of the oleates, is not so difficult to manufacture as the last named, and I will, therefore, omit the manner of making it. It, however, possesses valuable medicinal effect when applied in pustular eruptions, especially in sycosis and hepatic affections. It is also a most useful remedy in soothing and relieving cutaneous irritation when mixed with an equal quantity of olive-oil, and applied in acute specific eruptions, especially in scarlet fever.

MEDICINE.

RECENT PAPERS.

1. KEMPER.—Functional Obstruction of the Intestine. (*American Practitioner*, May 1879.)
2. BULL, E.—Slight Forms of Primary Acute Renal Disease. (*Nordiskt Medicin. Arkiv.*, Band xi.)
3. EDELSSEN.—On Albuminuria in Healthy Kidneys. (*Mittheilungen des Vereins Schleswig-Holsteinscher Aerzte*, 1879, No. 2.)
4. LITTON, MAX.—The Diagnosis of Kidney-Disease.
5. DUNCAN, MATTHEWS.—On Retention of Urine. (*Medical Times and Gazette*, Oct. 1879, p. 439.)
6. MURRELL, WILLIAM.—On the Treatment of Night-Sweats in Phthisis. (*Practitioner*, August 1879, p. 91, & seq.)
7. FEDERICI.—On Acute Disease of the Cerebellum. (*Gazzetta Clinica*, Fasc. vii, p. 205.)

8. AUBREY, M.—On Spontaneous Cure of an Aneurism of the Thoracic Aorta.

9. VULPIAN.—On Locomotor Ataxy. (*Maladies du Système Nerveux, 1ère partie. Maladies de la Moëlle; et Revue des Sciences Médicales*, Oct. 1879.)

10. GARCIN and FABRE.—On Nervous Symptoms consequent on Abdominal Affections. (*L'Union Médicale*, Oct. 1879.)

11. ROQUE D'ORBCASTEL, fils.—The Etiology of Sporadic Gout. (*Revue Médicale Française et Étrangère*, Nov. 15, 1879.)

12. LEVEN.—Treatise on Diseases of the Stomach. (Delahaye, Paris; and *Journal de Médecine et de Chirurgie Pratiques*, Nov. 1879.)

13. STEWART, GRAINGER.—The Eye Symptoms in Locomotor Ataxia. (*Brain*, July 1879.)

1. *Kemper on Functional Obstruction of the Intestine.*—Dr. Kemper relates the case of a young recently married woman, who suffered from nausea and indigestion, followed by slight diarrhœa; two or three days after these symptoms had ceased, uneasiness was felt in the bowels, and a purgative administered was vomited. Vomiting continued, and on the fourth day was stercoraceous. The temperature and pulse were nearly normal. Nothing could be discovered by examining the abdomen and pelvis. Belladonna, morphia, and minute doses of calomel were given; copious injections of warm water were thrown daily into the colon, and the body of the patient was occasionally inverted, and manipulations made over the abdomen. Upon the fourteenth day three copious stools were passed. The patient's general health had remained good. Three days after the bowels were moved she had violent hysterical attacks of crying, laughter, and screaming, which lasted three days.

2. *Bull on Albuminuria.*—E. Bull has observed the presence of albuminuria without or with only slight expression of the usual striking symptoms, which would be overlooked unless examination of the urine had been made. Sometimes a little blood was found in the urine. By judicious treatment, the affection ran a short and favourable course. In the absence of anatomical observations, no opinion is possible as to the nature of the morbid process upon which this condition depended.

3. *Edlessen on Albuminuria.*—In three anæmic men, transient albuminuria occurred only after muscular exertion. He explains it by suggesting that during their functional activity more blood goes to the muscles and less to the other organs. If, now, as in anæmic persons, the heart's action be enfeebled, the arteries will be less than normally filled, and the arteries of the internal organs will receive still less blood during muscular exertion. "Moreover, there will be further an accumulation of the blood in the smaller circulation, and still more in the venous system of the greater circulation; and we shall also find in the kidneys a quite insufficient filling of the arteries, with distention of the veins." These are the conditions with which Runeberg associates albuminuria. Moreover, the albuminuria which Leube observed in soldiers, after marching, may at least in part be explained in a similar way.

4. *Litten on the Diagnosis of Kidney-Disease.*—Max Litten has related three cases which during life presented the following symptoms. 1. The urine in all three cases was bright, clear, with little or no sediment, of very low specific gravity, and

increased in amount. 2. The left ventricle was in all cases hypertrophied (excentrically). 3. In each the retina showed the retinal hæmorrhages of Bright's retinitis. In one a cerebral hæmorrhage, in another repeated uræmic attacks, aided the diagnosis. In all three the urine was highly albuminous, and contained so many morphological elements as to point to parenchymatous nephritis. There was much œdema. On section, in all three cases, he found the so-called large white kidney.

ROBERT SAUNDBY, M.D.

5. *Duncan on Retention of Urine.*—Dr. Matthews Duncan commenced a clinical lecture by showing the close alliance existing between retention of urine and suppression, so far as symptoms and morbid results were concerned. Retention in the fœtus, before birth, produces very different results to the same condition ensuing after birth. A fœtus may be born well nourished, without kidneys or bladder, and live several days; or it may be born without a pervious urethra, with enormous vesical distension, and yet in perfect condition in other respects. [Latterly a child was under observation that passed no urine till the fourth day after birth, yet seemed in no way inconvenienced.—*Rep.*] Retention of the urine may be in the bladder alone, or in the ureter or ureters alone, or in both bladder and ureters. In each case it may be complete or incomplete. In the case of ordinary retention, the incompleteness is very well illustrated in cases where the woman declares, with truth, that she is passing urine in greater quantities and more frequently than usual. There is nothing more common in practice than for the circumstances of frequency and copiousness of urination to lead to mistaken diagnosis. The specific gravity of the urine in retention is low, and if the retention be incomplete it is copious. Stoppage of the secretion may occur from pressure in ureteral, but not, so far as is known, from urethral obstruction. Cases have occurred where both ureters were tied in operations for abdominal tumours, and these cases have survived several days and died without showing any special uræmic symptoms. Cases of other kinds show that the ischuria of complete retention, as by ureteral obstruction, is like cases of simple ischuria or primary suppression, in having uræmic symptoms delayed for a varying period, often for a week or more. The symptoms are very like those of uræmia during the puerperal epoch, but not identical. In uræmic eclampsia, the outbreak is generally sudden. In ischuria from retention, the disease evidences itself by twitching of the limbs, a certain degree of stupor, a changed and unaccountable manner in the woman, and by contraction of the pupils, often nothing more, and the patient dies; but sometimes there are convulsions and complete coma before death. Retention of urine in the bladder is generally caused by obstruction of the urethra. This may arise from cancer, pressure of ovarian tumour, retroversion of the gravid uterus, etc. In retroversion of the gravid uterus, we have retention of the urine both as cause and as effect; in fact, a "vicious circle", as it is called. If a retroverted gravid uterus do not right itself as it grows, as in a case of contracted brim, it will cause retention by pressure upon the urethra; this retention pushes the retroverted uterus downwards more than ever, and keeps it down. The replete bladder, therefore, increases the retroversion, and makes it, for the time at least, incurable; and it was the retroversion that caused

the retention, both combining to form a vicious circle. Ureteral retention is, occasionally, caused by the pressure of the gravid uterus, and this generally affects the right ureter; because, in 75 per cent. of women, there is right lateral obliquity of the womb, and, anatomically, the right ureter is more favourably situated for pressure than the left. Many other causes may give rise to ureteral obstruction; procidentia of the uterus by causing a "kink" of the ureter, peritoneal bands, parametritis, cancer, ovarian tumours, congenital deformities developing late in life, may all cause ureteral obstruction. Diabetes insipidus is often attended by dilatation of the ureters from obstruction, and is a good example of a vicious circle. There is a large quantity of urine secreted, which leads to frequent micturition; frequent urination leads, from the constant contraction of the bladder, to obstruction of the ureters at their orifices; and partial obstruction of the ureters leads to excessive secretion; the excessive secretion necessitates frequent relief; the frequent relief produces obstruction, and the obstruction of the ureters leads to excessive secretion—and so on. In diagnosing ureteral obstruction, pain in the flanks is of great importance, and with low specific gravity is, as far as Dr. Duncan knows, our only guide.

6. *Murrell on the Treatment of Night-Sweats in Phthisis and other Diseases.*—Dr. Murrell, in a series of interesting and instructive papers, reviews the various agents known to check night-sweating. Oxide of zinc has long proved trustworthy in doses ranging from 2 to 10 grains at bedtime. Sulphate of atropia, 1-200th to 1-100th grain, injected hypodermically, has lately proved most valuable, a single dose often checking the sweats for many days. It is often noticed that the first night shows no good effects, but, on the second night, without any fresh injection, the sweats disappear, to return slightly the next night, and, on the fifth night, they will be as bad as ever, but will then be speedily arrested by another dose. Gallic acid, quinine, and iron, all play an useful rôle in the treatment of individual cases. In nitrite of amyl, administered in minim doses, we have a recent valuable addition to our remedies. In seventeen test cases it relieved fourteen; it has not, however, yet proved so prompt as atropia in its action. Water, applied locally, as hot as can well be borne—indeed, a few degrees hotter [patients should always be told that the value of hot fomentations depends upon the "few degrees hotter" than can be borne.—*Rep.*], often relieves local sweating. Sage tea has at times proved valuable. In Dover's powder we have a most valuable therapeutic agent in doses of 5 grains once or twice in the night; and, while it is inferior to atropia, it is far more reliable than oxide of zinc. PicROTOXINE, the alkaloid of *cocculus indicus*, has yielded excellent results. In a girl who suffered from most profuse night-sweats, one-third of a grain in 8 ounces of water was prescribed in teaspoonful doses. On the third night, after only one dose each night, there was scarcely any perspiration; on the fourth night, no medicine was given, and there was no return of the sweating; on the fifth, no medicine being taken, the perspiration was very bad; on the sixth, after a dose, it was less; on the seventh, no medicine, and the skin only comfortably moist. For eleven days this improvement continued without any medicine, when sweating returned profusely for two nights, but a single dose checked it again for ten days. Other equally satisfactory cases are reported; only one failure occurred out of twenty cases.

R. NEALE, M.D.

7. *Federici on Acute Disease of the Cerebellum.*—Professor Federici records two cases of cerebellar disease, together with the *post mortem* results. The first was that of a woman, aged 28, who was attacked, while at work and seemingly in good health, with rigors, giddiness, and vomiting. These symptoms gradually increased in severity, and, later on, were accompanied by intense cephalalgia and epileptiform seizures. Although all power of performing co-ordinate movements in the upper and lower extremities was lost, the muscular force, as tested by the dynamometer, was nevertheless but little, if at all impaired. Cutaneous sensibility continued normal throughout the progress of the affection. Hearing was reduced on both sides, and sight failed to such an extent that two months before death the patient was completely blind. The ophthalmoscope showed retinal hæmorrhages, a congested condition of the veins, and a blurred outline of the disc. The eyes were directed continuously to the left and upward; by an effort of will they could be brought to the middle line, or even across it, but could not be maintained there for more than a few seconds. Epileptiform attacks occurred with ever increasing frequency, and were always followed by typical manifestations of Stokes' breathing. Death occurred about eight months after the appearance of the first symptoms, and was due to a gradual failure of all the functions of organic life. The *post mortem* examination revealed extensive cerebellar lesions, located chiefly in the right hemisphere. The membranes were opaque, thickened, and intimately adherent to the nerve-tissue beneath. A section through this hemisphere, parallel to the vermiform appendix, and about one centimètre from it, exposed a stratum of neoplastic material, symmetrically disposed round a tumour of the size of a pigeon's egg. Subsequent microscopic examination proved this neoplasm to be a sarcoma. The ganglionic substance generally was softened, and more or less disintegrated. The roots of the seventh pair of nerves had suffered from the pressure, and tore easily. The lamellæ on the inferior lobe of the hemisphere were still visible, but the sulcus between the inferior and cuneiform lobes could be distinguished with difficulty. A portion of the amygdalæ and raphè were involved in a neoplastic growth of the size of a nut, soft and red, and easily separable from the cerebellar substance. This tumour on its inner surface was in contact with the medulla oblongata. The effects of pressure were visible on all the superficial and deep fibres of the right half of the medulla, except those in immediate proximity to the median line. The middle peduncle was pressed out of shape, as also the vermiform appendix towards the left side. The left hemisphere was about one-third the size of the right; its laminated structure was destroyed, and the amygdaloid bodies atrophied. The second case occurred also in a female. Throughout the progress of the affection, the best marked and most constant symptom was intense cephalalgia, lasting generally but a few hours at a time, though occasionally for a whole day. Attacks of vomiting also occurred at intervals, and were accompanied by vertigo, faltering gait, and syncope. A peculiar feature in the case was the periodical remission of all symptoms, and a return to a condition of more or less perfect health. In the intervals between the attacks, there were no symptoms significant of brain-disease, so that almost up to the time of death the patient was able to attend to her domestic duties, and even work a sewing machine. Death occurred

somewhat suddenly, about seven months after the first manifestation of brain-symptoms. The power of co-ordinate movement was never, except during the attacks, seriously interfered with. The necropsy showed hyperæmia of the meninges, with generally diminished consistency of the cerebral substance, especially marked in the commissures. That portion of the quadrilateral lobe of the cerebellum in contact with the middle peduncle, was occupied by a unilocular cyst containing 40 grammes of an acid fluid with granular masses of albuminoid material. The cyst itself was covered on its upper surface by a layer of nerve-substance exceeding a centimètre in thickness, and apparently healthy. A small blood-clot existed on the upper surface of the pons Varolii. The medulla oblongata was unaltered. The pressure of the cyst had displaced the middle peduncle and the raphè, and had affected the shape of the amygdaloid bodies. These cases are accompanied by carefully executed plates of the lesions found in each instance, and by a somewhat diffuse clinical commentary. The author holds that the most characteristic and reliable symptom of cerebellar disease is impairment of the faculty of co-ordination. Other symptoms, such as cephalalgia and epileptiform attacks, are either secondary or accidental, and he has met with cases in which they have been entirely absent. Cephalalgia has a certain importance as a genuine sign of brain-disease, but is valueless as a guide to localisation. In affections of the cerebellum, vertigo frequently depends on transient exaltation of excitability in a group of nerve-cells, and, when such is the case, it is irregular and inconstant; when, on the contrary, it is due to a lesion of the commissural fibres, it will be more or less constant. By the term "commissural fibres", the author understands not so much the psychomotor centres of the cerebral cortex as those in which the primitive impulses are associated and combined. He terms them the "centres of harmony" or "association", and localises them mainly in the corpora striata, though to a less degree, also, in the superior and inferior vermiform appendices. He holds that the cerebellum does not itself co-ordinate movements, but is an indispensable factor in co-ordination. The centre of motion of the ocular muscles undoubtedly resides there. He also quotes with approval the old Italian doctrine of Rolando, resuscitated in later times by Weir Mitchell and Luys, that in the ganglion-cells of the cerebellum is stored up the nervous energy generated in the other encephalic centres. In this hypothesis the author finds an explanation of the superabundance of grey matter in the organ. The second case is interesting, both on account of the periodical remission of all symptoms, and also from the fact that co-ordination of movement was but little interfered with. In spite of the extensive changes in the cerebellum, the patient was able to perform all the complicated and interdependent movements necessary in her work. The explanation of this phenomenon is, that the more important commissural fibres, to wit, the vermiform appendices, had escaped destruction. In support of this view, a case recorded by Curschmann is quoted, in which a papilloma of the vermiform appendix caused motor disturbance only, without any impairment of muscular power.

LITTON FORBES.

8. *Aubrey on Spontaneous Cure of an Aneurism of the Thoracic Aorta.*—Mr. Aubrey records an aneurismal tumour taken after death from a woman, aged 72, who died of intermittent fever and senile

exhaustion. The tumour occupied the left side of the descending thoracic aorta, and was situated between the two lobes of the left lung. Below, it reached the diaphragm. Corresponding to it, dullness and deficient respiration had been noticed during life. The sac was completely full of grey firm stratified fibrin. It was of saccular type, and the orifice was not large. J. F. GOODHART, M.D.

9. *Vulpian on Locomotor Ataxy*.—M. Vulpian, in his recently published work, treats of the etiology of locomotor ataxy. After having descanted on its obscurity, he goes on to describe the symptoms which characterise its different stages. He sets forth in detail many very curious and little known peculiarities on the early visceral manifestations in ataxic patients. The oculo-pupillar disturbances; the gastric, nephritic, and genital crises; the cerebral and sensory phenomena, and the periodical eruptions which show themselves in certain patients, have been studied with quite a special partiality by the author. It is the same with the varied alterations of motility and sensibility which are, as it were, ready-made experiments placed at the service of clinical medicine, and which serve as a theme for some highly interesting physiological developments by the author. Pathological anatomy, viewed in connexion with the lesions, gives the key to the majority of the symptoms. These lesions, however, are always complex; not only the meninges, but the roots and the posterior fascia of the medulla, are the seat of disorders which are at once degenerative and irritative, which tend to the fibrous transformation of the posterior segment of the medulla, and to the destruction of the nerve-fibres. Profound and difficult questions of pathogenesis here present themselves as to the connexion and the starting-point of these lesions. Is there any question of a primary atrophy of the nerve-elements, intended to be replaced by any connective tissue, or is the atrophy consecutive on phenomena of spinal irritation? M. Vulpian is of the latter opinion. He cannot admit that the vessels are primarily diseased, and that such disease should be the primary cause of the degeneration of the nerve-roots and fascia. This is an utterly unsupported hypothesis, and is destroyed by the observation of those cases of ataxy in which the fascia are diseased whilst the vessels retain their normal structure. On the other hand, there is no question of a primary irritation of the neuroglia, for it cannot be seen. Now this irritation should confine itself precisely to the region of the posterior fascia. It is, therefore, reasonable to admit that the inflammation primarily attacks either the posterior fascia or the posterior roots; the question however, is, which of these two systems is the first to be attacked? MM. Charcot and Pierret are of opinion that it is the posterior fascia, in that portion of the thickness which answers to the internal radicular zone; and necropsies of ataxic patients in the first stage seem to justify this assertion. M. Vulpian, however, is of a different opinion. According to him, "the most probable hypothesis is, that the nerve-elements, the posterior roots of the nerves, are primarily attacked, and, in all probability, the lesions of the posterior roots are not the result of a centrifugal propagation of the primary changes of the posterior fascia". As a matter of fact, the spinal ganglia constitute the trophic centre of the posterior roots, and degeneration of the posterior fibres proceeding from the medulla to the periphery has never yet been met with, as must be necessarily admitted if the fascia were really primarily diseased. Without

prejudging this difficult question, which can only be decided by fresh researches, M. Vulpian looks upon MM. Charcot and Pierret's interpretation as one which cannot possibly be brought into harmony with physiological data concerning degeneration and regeneration of the nerve-fibres. M. H. Rendu, who writes an appreciative *résumé* of M. Vulpian's work in the *Revue des Sciences Médicales* for October 1879, points out that it is written in a remarkable spirit of scientific accuracy and logical precision, and that it is a thoroughly practical application of physiology to clinical science; also, what is by no means a small merit on the part of an experimental physiologist, clinical science therein occupies the largest place. Every chapter in which principles are enunciated has appended to it many cases met with in the hospital experience of the writer, which are followed up step by step with the most scrupulous exactness. The example is given side by side with the rule, and the fact observed helps to corroborate and justify the teaching.

10. *Garcin and Fabre on Nervous Phenomena consecutive on Abdominal Affections*.—Some accidents of great importance in abdominal affections, such as syncope, shivering, and algidity, in consequence of their reflex influence on the great sympathetic, may be noted. Algidity is not the only nervous phenomenon depending on visceral affections; an entirely opposite condition, the typhoid state, must be added. Algidity and the typhoid state may even appear separately, succeed each other as in cholera, or appear simultaneously as in Addison's disease. The starting point of these phenomena is always in the morbid disturbances of the viscera, and their immediate cause is the change or the disturbances of the nervous system. M. Gubler has already carefully studied under the name of peritonism the sometimes fatal complications observed in hernia, peritonitis, etc., beyond any lesion capable of explaining the fatal result. These symptoms of nervous origin are characterised by pain and algidity, by a choleraic condition often noted in certain kinds of infantile enteritis, as infantile cholera, and which the author has noted in certain renal or hepatic affections in the absence of any accident that can be imputed to uræmia or acholia. Thus, in children attacked by infantile cholera, the countenance alters rapidly, becomes changed and pale, the eyes become hollow, the pulse small, the extremities are cold. At this moment, it may be said that the enteritis has disappeared from the scene, that the change in the nervous system predominates over the inflammatory element in the intestine; it is, therefore, to the nervous system and not to the enteritis that the physician should direct his attention. At other times, instead of algidity with a choleraic condition, it is the typhoid condition with rise of temperature which is in the ascendant in the enteritis. But these differing symptoms are always due to the action of the nervous system. The therapeutic treatment is in accordance with these data; for, on the one hand, algidity is combated with agents which excite the great sympathetic—opium, alcohol, arsenic, and frictions of the skin; on the other hand, the typhoid condition is influenced by attacking the vaso-motor torpor, by quinine and cold applications. The abdominal organs influence each other reciprocally, but it should be noted that this influence diminishes from below upwards; thus the action of the stomach is limited, that of the kidneys and liver is more extended, that of the uterus the most

powerful. Affections of the stomach and of the upper part of the intestine disturb the secretion of the liver by suspending or diminishing its functions; thus, in infants suffering from gastro-enteritis, the motions are discoloured without icterus. Intestinal affections, painful or inflammatory affections, act on various organs; atrophy of the liver is produced in lead-colic, congestion of the lungs and of the liver in enteric disorders, etc. Uterine affections have a well-known action on the stomach and intestines in the production of dyspepsia, gastralgia, and abdominal tympanitis. Affections of the liver produce vaso-motor troubles, congestion or obstruction of the lungs in hypertrophic cirrhosis, biliary lithiasis, etc.

11. *Rogue D'Orbcastel on the Etiology of Sporadic Goitre.*—Dr. Rogue D'Orbcastel, junior, reports the case of a gentleman living in the department of the Agen, who found himself suddenly suffering from a tumour as large as a nut on the right side of the neck. He called in a medical man, who prescribed iodide of potassium in large doses internally and externally, but without any result; the patient therefore consulted another and another surgeon, the last of whom advised an operation. He then went to Toulouse to consult M. D'Orbcastel, who, in conjunction with M. Bonamy, assured him that the affection from which he was suffering was a goitre. M. D'Orbcastel then remembered that the wife of this gentleman, her sister, and their father, had also suffered from acute goitre, and that, in all these cases, the hypertrophy of the thyroid body had shown itself on the same side, and had attained varying dimensions after the age of forty, in subjects who were neither of a lymphatic temperament nor scrofulous, but of a nervo-sanguineous temperament. Cold was the exciting cause of the tumour in all the cases. The father, who lived in the country, went out one day with his shirt open and his neck bare to get cool, and encountered a strong fresh breeze; the neck became tender, and goitre manifested itself and lasted for eighteen or twenty months, finally yielding to the internal administration of *Poudre de Sency*. Madame de L., the wife of the first patient, sat in a draught one winter's day, and soon afterwards found herself incommoded by a rather large gland on the right side of the neck, at the level of the larynx. The tumour was smooth, without any change in the skin, of a rounded form, following the movements of the vocal apparatus; and setting aside a certain irritability, there were no inflammatory phenomena. The thyroid body was in reality the seat of the swelling. The diagnosis was not doubtful, and the treatment was speedily successful. It consisted in the administration of small doses of iodide of potassium, 5 centigrammes daily, diluted with 125 grammes of water, mixed with the water the patient took at meal times, and frictions over the tumour with an ointment of iodide of lead. In three months the goitre disappeared. The same affection made its appearance in the sister of this lady four years later, also after having felt a chill in the throat when leaving a ball on a winter evening. The affection showed itself in a few days. The same treatment was adopted as with the other sister, and took immediate effect. Eight years afterwards, the brother of these ladies was attacked, as already mentioned, by the appearance of a tumour which was not at first recognised as a goitre. It was indolent, not at all fluctuating, and very inconvenient to the patient, who was annoyed at not being able to wear a shirt-collar, nor to dispense with the use of a muffler, the least depression of temperature causing

him to suffer. Small doses of iodide of potassium on bread and butter were prescribed, and the goitre was painted with iodised tincture of iodine. This treatment produced cure without any relapse. In the case of the two ladies, who were threatened with a recurrence of the disease, the treatment was resumed for a time. M. D'Orbcastel lays stress on the following points in these cases: 1. that no other members of the family had ever had goitre; that, therefore, the heredity was not a determining cause in the morbid development of the thyroid gland in either father or children; 2. that, in all the four persons affected, the action of sharp or prolonged cold induced the appearance of a tumour in the same situation and of the same nature. These circumstances would tend to show that this affection is not exclusively dependent on narrow and damp valleys, nor of the use of certain descriptions of water. M. D'Orbcastel is of opinion that he has brought forward some evidence on the question of the etiology of goitre. Science has not determined this point. Cold has not always been admitted as a direct cause of the disease; and, in 1845, M. Guyon, in a note presented to the Paris Académie de Médecine, maintained that the disease, which in his view was only due to deprivation of solar rays, should not be attributed to cold or damp. M. Boussingault was strongly opposed to him, and instanced epidemic gout amongst soldiers, arising from a sudden change of barracks, and acute goitre, a summer complaint, clearly developed by the influence of very cold drink, and which is not always of an ephemeral character. The thyroid body has been ranked amongst the sanguineous vascular bodies without an excretory duct. If it secrete any fluid, it is probably absorbed into its interior, and the cold is experimentally considered as a tonic vascular agent. M. D'Orbcastel, therefore, asks why a rapidly differing temperature seizing hold on the nerves or the vascular muscle should not induce an endosmotic action, a cellular congestion of the lymph or blood, on an organ of peculiar constitution. The three above-cited facts confirm him in this opinion; the cause was unquestionable, and the affection not doubtful: it developed without any complication, and, if it did not always attain considerable proportions, the promptitude of the treatment ought to be taken into account.

12. *Leven on Diseases of the Stomach.*—M. Leven, the chief physician to the Rothschild Hospital in Paris, in his recently published work, which is based on very extensive clinical researches, and on numerous physiological experiments, formulates some novel theories, which are of considerable importance, from the clinical and therapeutic points of view. With regard to the physiology of the stomach, for instance, M. Leven admits, and seeks to establish by his experiments, that the function of the stomach is much more mechanical than chemical. If the aliments be liquid, they are almost immediately driven by the contractions of the stomach as far as the intestines; if they be solid, they are simply then chymified; that is to say, transformed into a semi-liquid mass, able to pass into the intestines, which is the true centre of digestion of nitrogenised elements like fecula and fats. Neither peptonisation nor absorption take place in the stomach. The function of the stomach is the same with regard to all kinds of food. With regard to the secretion of the intestine, M. Leven also postulates a totally new theory, since he believes that the intestinal juice has an acid reaction similar to that of the stomach, and not

alkaline, as the physiologists assert. This difference is connected with the fact that in the experiments, which are destined to yield intestinal juice, purgatives are used, which bring on a very acute congestion of the mucous membrane, and consequently an exhalation, which is nothing else than the serum of the blood, with its alkaline reaction—a fluid analogous to that which would be obtained by a veritable traumatic irritation of that mucous membrane. From this way of looking at the physiology of the gastro-intestinal apparatus, there also arises great differences in the appreciation of the nature of the diseases of the stomach, and especially of dyspepsia, which includes them all. Dyspepsia, in fact, is no longer in any case a functional trouble, a neurosis of the stomach, but is characterised by congestion and inflammation of the mucous and underlying membranes, such inflammation being capable of producing degeneration of the mucous membrane, sclerosis of the septa of the vessels, and hypertrophy of the submucous cellular tissue. In so considering dyspepsia, gastralgia, which is mixed up with it, and is naught else than dyspepsia with painful crises, must not be dis severed from it. Ulceration is only an accident, a complication of chronic dyspepsia. Cancer itself may follow the same affection. Hereditary cancer, which comes on at once, alone presents a different origin, the result being that all diseases of the stomach, the last-named form of cancer excepted, are reduced to one morbid species, dyspepsia. It will be recognised that Dr. Leven's theory approximates greatly to that of Trousseau, who recognised the effect of a gastritis in every dyspepsia. The therapeutic conclusions are, however, absolutely different, for, according to him, the proper treatment of diseases of the stomach consists, above all things, in regimen and hygiene, medication only playing a secondary part. M. Leven also is absolutely opposed to the opinion of Trousseau, that dyspeptic patients are the best judges of the food which agrees with them, and which they can digest. He affirms, on the contrary, that it is extremely important that the medical attendant should direct the regimen of his patient, and superintend his mode of life. He therefore lays great stress on this part of therapeutics, as well as on the etiology of dyspepsia. In this portion of the book, which is evidently destined to give rise to much criticism, the practitioner will find many useful suggestions. C. H.

13. *Stewart on the Eye-Symptoms in Locomotor Ataxia.*—Dr. Grainger Stewart publishes an interesting clinical lecture on the above subject, comparing the eye-symptoms observed by him in twenty cases of ataxia with the statistics of Eulenburg. Dr. Stewart groups the symptoms under four heads: 1. Double vision, squinting and ptosis; 2. Changes in the pupil; 3. Amblyopia and amaurosis; 4. Colour-blindness. Out of the twenty cases, eight had symptoms of the first class, four of which, he says, had diplopia "without manifest squint". Under heading 2 he has seen no case of mydriasis, which Eulenburg considers a late manifestation in ataxia. He suggests, however, the possibility of its being one of the earliest and overlooked symptoms. Seven of his cases had marked myosis. Absence of contraction of pupil on stimulus of light coinciding with normal accommodative movements, as first described by Argyll Robertson, was observed in all the cases of myosis, also in one case in which the pupil was not contracted. Fourteen of his twenty cases come under heading 3, in only five of which, however, there was distinct atrophy of the optic nerve (?).

Finally, of the twenty cases, only three could be referred to heading 4. From the method of examination adopted, only the cases in which the achromatopsia had reached the centre are here referred to.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. HAYEM.—The Use of Iron and Inhalations of Oxygen in Anæmia and Chlorosis. (*Annales de la Soc. de Méd. de Gand.*, Band x.)
2. KERR, ELIAS W.—On Nitrite of Amyl in Uterine Hæmorrhage.
3. GOOLDEN, R. H.—On the Direct Application of Oxygen to Ulcerating Surfaces. (*Lancet*, Oct. 1879, p. 606.)
4. DOUGALL.—On Disinfection by Acids. (*Brit. Med. Journ.*, Nov. 1879, pp. 726, 770.)
5. NEALE, R.—On Swiss Milk as a Food for Infants. (*Brit. Med. Journ.*, October 1879, p. 615.)
6. COURTENAY, J. H.—On Tetanus following Hypodermic Injection of Morphia. (*Brit. Med. Journ.*, October 1878, p. 615.)
7. DE GIACOMO.—On Werner's Medicament in Burns. (*Annali Clinici del Ospedale Incurabile*, Jan. and Feb. 1879.)
8. FEDERICI.—On the Administration of Salicylic Acid in Dyspepsia.
9. MARAGLIANO, DARIO.—On the Hypostic Value of Lactic Acid and Lactate of Soda. (*Rivista Sperimentale di Freniatria e di Medicina Legale*, Anno v, 1879.)
10. SCHWALBE.—Subcutaneous Injection of Alcohol, etc., in Diseases of the Blood-Vessels. (*Virchow's Archiv*, Band 76.)
11. SCHLAEFFKE.—On Iodide of Potassium and Calomel. (*Graefe's Archiv*, vol. xxi, p. 251.)
12. THOROWGOOD.—On Calomel v. Hydrargyrum cum Creta. (*Med. Press and Circular*, Oct. 8, 1879.)
13. American Notes on Salicylic Acid in Rheumatism. (*Boston Med. and Surg. Journal*.)
14. MERCK, E.—On Crystallised Salicylate of Physostigmine (or Eserin.) (*Zeitsch. d. Oesterr. Apoth.*, Bd. v, No. 15.)
15. BRONSON.—Iodoform Paste. (*Archives of Dermatology*, July 1879.)
16. STEWART, GRAINGER.—Combination of Chloride of Ammonium with Iron. (*The Practitioner*, Aug. 1879.)
17. MACDONALD.—On Menthol as an Antineuralgic.
18. MAUREL.—On Diuretics.
19. Fucus Vesiculosus. (*Lancet*, October 25, 1879.)
20. REVERDIN, JACQUES.—Mixture for Bleorrhagia. (*Journal de Médecine et de Chirurgie Pratiques*, Nov. 1879.)

1. *Hayem on the Use of Iron and Inhalations of Oxygen in Anæmia and Chlorosis.*—Dr. Hayem, in conjunction with M. Regnaud, has made a number of observations on this subject. It was found that the administration of iron, in the form of Berlin blue, had no effect in improving the state of the blood or the appetite of the patients unless inhalations of oxygen were also employed. They found that, if the inhalation of oxygen were desisted from, the patient's condition retrograded, though it had been apparently improved; while the simultaneous use of iron and oxygen produced a permanent improvement, the red corpuscles being increased both in quality and in quantity. They arrive at the following conclusions: 1. The active preparations of iron act as a blood preparing material, contributing especially to the formation of the red corpuscles; 2. Iron does not always act alone, but in dyspeptic subjects inhalations of oxygen are also necessary, in order to completely subdue the chlorosis and anæmia.

2. *Kerr on Nitrite of Amyl in Uterine Hæmor-*

rhage.—Dr. Köhler having for many years treated severe uterine hæmorrhage by the application of heat to the head, thereby preventing anæmia of the brain and heart, it struck Mr. Elias W. Kerr that nitrite of amyl, on account of its rapidly dilating the cerebral vessels, might be a still more efficient agent. In a severe case of *post partum* hæmorrhage he succeeded in immediately curing his patient by means of one five-minim inhalation.

3. *Goolden on the Direct Application of Oxygen to Ulcerating Surfaces*.—The value of inhaling the fumes of oxide of mercury, given off from hot iron, in phagedænic ulceration of the throat, is well known. Dr. Goolden argued, that the benefit accruing must be due to the oxygen given off rather than to the mercury, since this latter could not volatilise except with a heat greater than could be inhaled. In two cases, pure oxygen was substituted with most satisfactory results. [A reference to the *Medical Digest*, section 224, will show at a glance the numerous diseases in which oxygen, internally, externally, and by inhalation, has been recommended, and, since the publication of this work, very interesting papers have appeared on inhalations of the gas, from the pens of Dr. Richardson, *Lancet*, vol. ii, 1878, pp. 335, 749; Dr. Blake, *London Medical Record*, 1878, p. 291; and Dr. Ball, *British Medical Journal*, vol. i, 1878, p. 562, who describes and illustrates an instrument for inhaling the gas.—*Rep.*]

4. *Dougall on Disinfection by Acids*.—The following remarks apply to the destruction of infective matter—to disinfection, and not to the preservation of organic matter, or antiseptism as practised in surgery. In a series of experiments, Dr. John Dougall found that vaccine lymph exposed to certain volatile acids, until it had an acid reaction, lost its power permanently. Carbolic acid, however, was not among the number; for, although lymph recently mixed with certain proportions of carbolic acid could not be inoculated, yet, if exposed to the air for a time, the carbolic acid volatilised, and then the lymph was potent, so that it was proved to be a preserver of organic matter and not a destroyer, whereas chlorine, hydrochloric, nitrous, acetic, and sulphurous acids were reliable disinfectants after the lymph was once thoroughly acidulated. As regards the permanganate of potash, as found in Condy's fluid, it was proved by experiments that it would require £10,950 to disinfect the yearly excreta of thirty enteric patients. Although carbolic acid has no claim as a disinfectant, it may, nevertheless, assist in preventing zymotic disease, by its antiseptic powers. It is natural to suppose that acids should be prompt and efficient antizymotics, omitting carbolic acid, of course, which partakes more of the character of an alcohol, and is called an acid because it forms salts with alkalies, while it does not redden blue litmus, because all infectants have an alkaline, if not a neutral reaction. Such is the case with vaccine, varioline, virus of infective inflammations, virus of glanders, enteric and choleraic fæcal matter. Sulphurous acid has long been well known as a most efficient aërial disinfectant. Acetic and nitrous acids are also most valuable, Dr. Smith receiving £5,000 for the suggestion of the use of the latter acid in Winchester Gaol, during an epidemic of malignant fever, in 1780. Dilute hydrochloric acid (one to twenty), Dr. Dougall considers the cheapest, most easily used, and most effective non-aërial disinfectant. A large cupful of the mixture is placed in the chamber utensils. After being emptied down the closet, they are rinsed with another cupful, which is at

once poured down the closet, the water running while this is done. No injury results to the metal of the closet. The dirty bed clothes and body linen are sprinkled with the solution, sufficiently to make them sensibly damp, and allowed to remain for four hours; saturation for an hour is, of course, preferable. As woollen clothes resist the acid better than linen or cotton, and as they retain infective matter longer, it is better to expose them for a longer period. Boiling water is afterwards poured over the acidified clothes, etc., and allowed to stand for an hour. The subsequent rinsing must be thorough before washing, otherwise the soap forms no lather.

5. *Neale on Swiss Milk as a Food for Infants*.—Several correspondents having, in recent numbers of the *British Medical Journal* and other periodicals, spoken highly of the value of Swiss milk in the hand-rearing of infants, Dr. Neale makes an earnest protest against such use, maintaining that the excess of sugar acts prejudicially upon the child, so that disease is the frequent result; and also that the children thus fed frequently succumb from trivial ailments. As a therapeutic agent, in diarrhoea, few can question the value of the Swiss milk. [The view taken by Dr. Neale naturally has its supporters and its opponents; still, as the result of careful observation during many years caused the protest to be uttered, it would be well if the attention of the profession were directed to the subject. A very able paper on the prejudicial influence of Swiss milk appeared from the pen of Dr. Daly of Dalston in the *Lancet*, November 1872, p. 653. Other papers may be referred to in the *Medical Times and Gazette*, vol. i, 1879, p. 96; vol. ii, 1879, p. 350, and, in the *British Medical Journal*, vol. ii, 1879, p. 602.—*Rep.*]

6. *Courtenay on Tetanus following Hypodermic Injection of Morphia*.—A coolie in Jamaica, after using one-sixth of a grain of hydrochlorate of morphia for three successive nights, was seized, at 9 the morning following the third injection, with tetanic symptoms which lasted three hours, and gradually passed off while he was taking tincture of belladonna. At p. 709, Mr. Meldon reports another case terminating in death. [In the *Lancet*, vol. ii, 1876, p. 873, a similar case is reported, and the question asked whether it was due to the morphia or the syringe-wound? Several cases of tetanus following the hypodermic use of quinine and arsenic are reported in the *Lancet*, vol. ii, 1867, p. 26, and *Medical Times and Gazette*, vol. i, 1879, p. 160.—*Rep.*]

RICHARD NEALE, M.D.

7. *De Giacomo on Werner's Medicament in Burns*.—Dr. De Giacomo speaks highly of Werner's application, which he has tried with very satisfactory results in ten cases of burns. The application consists of seventy-five centigrammes of nitrate of silver, dissolved in water, and mixed with thirty grammes of linseed oil. The manner in which the medicament is applied is of importance. It should be laid on carefully with a brush or pledget of lint, the injured part being immediately wrapped up in several layers of wadding. Special care should be taken that the layer of wadding next the injured part lies evenly, and is free from folds or wrinkles. The first dressing may require to be renewed within forty-eight hours, but if there be no escape externally of pus or serum it may be left on for four or five days. The layer of wadding next the injured part forms a firm protective covering, separated however from actual contact with the skin by a layer of pus or tissue, more or less considerable,

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THE LANCET, Oct. 18, 1879.

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THE MEDICAL TIMES AND GAZETTE, Oct. 4th, 1879.

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THE MEDICAL PRESS AND CIRCULAR, Oct. 22nd, 1879.

We are, of course, unaware of the process of refinement by which the removal of the fishy taste and odour has been effected, but, this much we can say—having personally tested it, and having, moreover, given it to one or two delicate patients, we think the most fastidious will not object to take it on the score of taste, and no nauseous eructations follow after it is swallowed.

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according to the degree of the burn. The most important condition of success is to keep the dressing firmly adherent to the part; thus, if a burn be situated on the fingers, the wadding should be applied round each finger separately, and be securely fastened on. The author considers that this treatment exercises a beneficial influence on the healing of the cicatrices, and, by placing the wounds under the most favourable conditions of repair, tends in some measure to lessen the chance of ultimate contraction.

8. *Federici on the Administration of Salicylic Acid in Dyspepsia.*—Professor Federici publishes a therapeutic note on the value of salicylic acid in certain forms of dyspepsia. He holds that it is indicated in cases dependent on (a) deficient secretion of gastric juice; and (b) excessive consumption of certain alimentary substances. In such cases, fermentation takes place, which may assume either a butyric or an alcoholic type, and is primarily dependent on the development of specific fungi. Such cases he was formerly accustomed to treat either with creasote or with phenic acid, but of late years he has completely abandoned these drugs in favour of salicylic acid, on the remedial powers of which he places a very high value. He prescribes it in doses of from twenty to forty centigrammes, in the form of a pill, after each meal. When it fails, the cause of failure will nearly always be found in a misconception of the etiology of the affection. Thus, the acid will be useless in cases depending on excessive secretion of acid fluid, due to irritability of the gastric mucous membrane. It will fail likewise in cases where the development of gas and of a sense of constriction in the abdomen are due not so much to any chemical changes undergone by the food, as to the influence of hysterical or hypochondriacal neuroses. LITTON FORBES.

9. *Maragliano on the Hypnotic Value of Lactic Acid and Lactate of Soda.*—Dr. Dario Maragliano publishes the results of a series of observations on this subject in the *Rivista Sperimentale di Freniatria e di Medicina Legale*, anno v, fasc. 3, 1879. The patients experimented upon were mostly quiet lype-maniacs with obstinate insomnia. The acid was tried forty-nine times, and the salt twenty-six times. In twenty-five cases, lactic acid was given by the mouth in quantities of from one and a half to three drachms, with water and syrup; in none of these was there any beneficial effect. In sixteen cases, from one and three quarters to two and a half drachms were given in the same way about an hour before supper; in only two of these (dose, one and three quarter drachms) was the drug inert; in the other fourteen cases the patients went to sleep directly after going to bed, and slept until the morning. In eight cases, from two to three drachms of the acid, dissolved in water, were administered as an enema, sometimes before and sometimes after supper, but without producing any beneficial result. Lactate of soda (from two to four drachms, in six ounces of water, in divided doses), given in twelve cases after supper, produced no lasting sleep. From two to two and a half drachms given before supper in four cases, gave equally uncertain results. Sound and lasting sleep was caused in four cases in which three or four drachms of the salt were given by the mouth an hour before supper, and consequently upon an empty stomach. The same quantity administered, *per rectum*, in six cases, caused no sleep whether given before or after supper. Both the acid and the salt were tried in three cases suffering from

constant excitement and restlessness; they were administered under the most favourable conditions as indicated by the results given above, but produced no effect whatever; later on, one centigramme of morphia was added to the usual dose, but equally without result; two centigrammes of morphia, injected subcutaneously, in two of these cases, gave good results. The author's conclusions are these. 1. Lactic acid, in doses of two to two and a half drachms, and lactate of soda, in doses of three to four drachms, given to quiet lunatics by the mouth, on an empty stomach, three or four hours before bed-time, are efficacious in producing sleep. 2. These drugs have no effect when the insomnia is accompanied by great agitation and excitement. 3. Lactic acid and small doses of morphia, when administered together, do not mutually enhance one another's effects as has been stated to be sometimes the case. 4. The use of lactic acid and its salts as hypnotics for quiet lunatics is not to be preferred to that of those commonly employed at present (*e.g.*, chloral and morphia), on account of the following disadvantages: tardy action, the gastro-enteric disturbances which they produce, and their greater costliness. Dr. Maragliano's experiences in the use of these drugs quite confirm previous observations as to their very harmful effects upon the alimentary system. C. S. W. COBBOLD, M.D.

10. *Schwalbe on the Subcutaneous Injection of Alcohol, etc., in Diseases of the Blood-Vessels.*—Subcutaneous injections of solution of ergotine act, according to Schwalbe, chiefly locally, that is to say, not through their influence on the muscular tissues of the vessels, but only by exciting inflammation. This is the result of a not inconsiderable quantity of lactic acid, which is found in the extract of the ergot, besides also the action of the media employed, alcohol and glycerine. Schwalbe employs chiefly ethyl-alcohol mixed with water, 15 to 80 per cent. of alcohol. The injection is made usually about 3 centimètres from the vessels, or from the vascular tumour: the cannula only is introduced, and the solution is only thrown in when the operator has satisfied himself that no blood issues from the cannula. The author describes a case of multiple cavernous angioma, which he cured by the injection of alcohol. The tumours gradually diminished without thrombosis occurring in them. Thrombosis followed very rarely in the vessels in the neighbourhood of the place of injection. The author saw very rarely any unpleasant consequences beyond that of temporary pain. In more than 3,000 injections, eight were followed by suppuration. Sometimes when the injection was made immediately under the skin the cutis became quite white for a small space, and unless the alcohol were driven out in these cases by light rubbing, a spot of the skin would become black and die. This circumstance the author observed four times. If a nervous twig passed through the place of injection, the spot became for some time anæsthetic. The author has seen excellent results from these injections of alcohol in varix and in varicose tumours. Hasse has had good results in teleangiectasis of such a kind that the angioma at first shrank to the size and aspect of a scar, but gradually the site of the tumour assumed again a normal appearance. In hæmorrhoids, these injections appear to be very painful.

11. *Schlæfke on Iodide of Potassium and Calomel.*—Schlæfke (*Gräfe's Archiv*, vol. xxi, 2, p. 251) refers to the fact which has frequently been observed,

that the external application of calomel may give rise to severe inflammation of the conjunctiva if used simultaneously with the administration of iodide of potassium internally. This he explains by the formation of iodate and iodide of mercury, which in the presence of common salt, or iodide of potassium, are soluble, and act as caustics. He finds that if iodide of potassium be taken twice daily in half-grain doses, its presence can be constantly detected in the conjunctival sac.

12. *Thorowgood on Calomel v. Hydrargyrum cum Cretâ*.—Dr. John C. Thorowgood writes: As a means by which the system may be gradually saturated with mercury, small doses of mercury and chalk powder are doubtless very effectual; but as a cholagogue to induce secretion from the duodenum and liver, I believe a far more certain medicine is found in calomel. One grain of calomel triturated for some time with twelve grains of sugar of milk, forms a very effective cholagogue powder, when administered in a dose of one or two grains. The well-known blue-pill, also, may be depended upon for cholagogue action, especially if the pill-mass be of some age, so that a small quantity of the suboxide of mercury has been developed in it. Metallic mercury "killed" by minute trituration with sugar of milk forms a gray powder that can be easily prepared in the same way as the hydrargyrum cum cretâ, and, so far as my experience goes, is a preferable medicine. Hydrargyrum cum magnesiâ I have also tried in one case, but have nothing special to report of its action. I have a decided preference for calomel and blue pill as the best forms for obtaining the cholagogue action of mercury. The practice of frequently administering small doses of hydrargyrum cum cretâ with a view to correcting secretions is objectionable, as its tendency is gradually to impregnate the system with the mercury, and so produce irritability and anæmia.

13. *American Notes on Salicylic Acid in Rheumatism*.—Twenty cases of this treatment are reported from the Massachusetts General Hospital in the *Boston Medical and Surgical Journal*, with the following comments. In reviewing these cases the following facts are observed. In eight cases out of seventeen which were treated with salicylic acid, the duration of the disease from the beginning of the attack, without reference to length of treatment, was in the longest case twenty-six days, and in the shortest five days, the improvement being very marked from the beginning of the treatment. In four of these cases there were one or two slight exacerbations of pain, relieved in from two to six days by small doses of the acid. Of the three patients who took the salicylate of soda only, even including the length of illness before entrance, the duration of the disease was less than twelve days in each case, the shortest time being two days. In the remaining nine cases, the duration of the disease was either six weeks and more, or was so marked by some complication that satisfactory results could not be obtained. In two of these cases, there was very marked improvement after taking the acid; in one the treatment was discontinued on the second day, owing to wild delirium; in another pleurisy supervened, masking the symptoms; and in five the treatment met with varying success, the symptoms constantly recurring and showing little improvement from the use of the acid. The length of illness before entrance in these cases varied from five days to three months. Out of seventeen patients who used salicylic acid, in five nausea and vomiting were produced; in eight,

deafness and noises in the head; and in five, delirium, one being wild for thirty-six hours. In the three who took salicylate of soda only, there was no gastric nor cerebral disturbance. In regard to the comparative merits of the treatment by salicylic acid and the salicylate of soda, a fair estimate cannot be made from these cases. In the three who were treated by the salicylate of soda, the recovery was very rapid; but in no one of them was the attack of a very severe nature. Judging from the foregoing cases, we are justified in coming to the following conclusion: that, although salicylic acid is not a specific remedy for every case of rheumatism, yet in acute cases, if the treatment be begun within a few hours, or at most a few days, from the onset of the disease, and pushed vigorously, the most satisfactory results may be obtained. Care should be taken, moreover, not to omit the treatment immediately after the cessation of pain, but gradually to diminish the dose.

14. *Merck on Crystallised Salicylate of Physostigmine (or Eserine)*.—The fact that aqueous solutions of the salicylates of other alkaloids were found to have superior keeping properties, led Mr. E. Merck to prepare a salicylate of physostigmine (or eserine). This was at once found to surpass all other salts of this alkaloid in purity and stability. It forms colourless, shining, needle-shaped or short cylindrical, apparently rhombic crystals. It is easily soluble in twenty-four parts of absolute alcohol; but it requires one hundred and thirty parts of water for solution at ordinary temperature. Hot water dissolves it easily, and, on cooling, solutions of one in fifty often remain for weeks without depositing the excess, owing to a state of supersaturation. The crystals remain unaltered when exposed to light (at least they had remained so for three weeks); aqueous or alcoholic solutions, kept in diffused light in well-closed vials, began to redden in one or two days, but never assumed the dark tint of the sulphate, which turns red a few hours after being dissolved in water. Its composition was found to be: physostigmine, 66.6 parts; salicylic acid, 33.4 parts, which would correspond to the formula $C_{15}H_{21}N_2O_8$. $C_7H_5O_2$. In effect, it is at least equal to the other salts, if not more effective.

15. *Bronson on Iodoform Paste*.—At a recent meeting of the New York Dermatological Society, Dr. Bronson showed specimens of iodoform paste, which had been prepared with a view to diminish or disguise the odour of the drug. It was formed by rubbing the powdered iodoform with equal parts of mucilage and glycerine in sufficient quantity to make a soft mass, and then adding a minute quantity of some essential oil; for this latter, nothing had been found better than oil of peppermint, which had recently been suggested in one of the German periodicals. The proportions in the specimen shown were as follows. R. Iodoformi (3i; mucilag. cum glycerino, gtt. xx; ol. menth. pip. (seu neroli, seu caryophylli) gtt. i. Misce.

16. *Stewart on a Combination of Chloride of Ammonium with Iron*.—Professor T. Grainger Stewart, in drawing attention to a certain condition which often arises in cardiac affections (particularly aortic disease), demanding for its treatment large doses of iron, states that, in some cases, both belonging to the above groups and of other kinds, the reception of iron by the system is greatly facilitated if chloride of ammonium be administered along with it. The form of iron he finds best is the tincture of the perchloride; to this he adds chloride

of ammonium, in doses of half a grain to each minim. He maintains that in cases in which iron, if given alone, causes dyspepsia, the latter is relieved by the combination described, and the patient is enabled to bear large doses of iron for a considerable time.

17. *Macdonald on Menthol as an Antineuralgic.*—Mr. A. D. Macdonald extols the virtues of this substance, which is a volatile solid obtained from Chinese or American oil of peppermint, as a remedy in the various forms of neuralgia. The solution he uses is the following: Menthol gr. i; spt. vini rect. ℥j; olei caryoph. ℥x: mix. To be shaken, and painted over the affected tract. Pain is in this way relieved in from two to four minutes, and within a minute or two more the attack ceases. In toothache, the author has cleaned out the cavity of the tooth with a little cotton-wool, and then placed a single crystal on another small piece of wool and inserted it, with the result that the pain instantly disappeared. A tincture of the strength 1 in 50 is equally effective. Mr. Macdonald recommends menthol as a suitable external application in sciatica, intercostal neuralgia, and brachialgia.

18. *Maurel on Diuretics.*—M. Maurel considers as a diuretic every drug which augments in an appreciable degree the normal quantity of urine as its constituent principles. His conclusions are as follows. Nitrate of potash cannot be relied on as a sure and rapid qualitative diuretic, but as a compensation it is a quantitative diuretic, constantly increasing the excretion of the solid matters of the urine. The average figure of increase, 5.54 grammes ought, however, to be diminished by that representing the quantity of salt eliminated by the kidneys. Acetate of potash is a weak and uncertain diuretic. Chlorate of potash is a certain but weak qualitative and quantitative diuretic; iodide of potassium is neither one nor the other. Salicylate of soda is only a qualitative diuretic. Digitalis is a powerful qualitative and quantitative diuretic, in doses of from one to two grammes of the tincture; its action is prolonged several days after its administration has been stopped. Tincture of colchicum acts like digitalis, but to a much smaller extent. As to squill, the author has considerable doubt of its diuretic action. It is a question, however, whether M. Maurel's results can be applied to clinical medicine. The editor of the *Journal de Thérapeutique* doubts it much with respect to the nitrate of potash, the acetate of potash, and to squill, which he affirms, notwithstanding M. Maurel's dicta, to be powerful diuretics. M. Dujardin-Beaumetz also maintains that physiological facts cannot here be deduced from therapeutic conclusions. M. Féréol is of opinion that white wine and milk really go to make urine, on which M. Dujardin-Beaumetz remarks that milk and wine contain water, and that water alone increases the quantity of urine in eliminating itself by the kidneys. M. Duhomme lays stress on the necessity of taking note of the hygrometric condition of the air, of the temperature of the body, and of the amount of perspiration.

19. *Fucus Vesiculosus.*—A preparation known as "anti-fat" has been extensively advertised, both in this country and in America, possessing, if we may accept the statements of the proprietors, very remarkable powers in removing that superabundance of fat which is frequently a source of anxiety and discomfort to those who indulge too freely in the pleasures of the table. "Anti-fat" is said to be a fluid extract of *Fucus vesiculosus*, a common

seaweed, known in this country as sea-wrack or bladder-wrack, and in France as *Chêne marin* or *Laitue marine*. It is largely employed on the coasts of Scotland and France in the preparation of kelp; whilst in Ireland, curiously enough, it is found to be invaluable for fattening pigs. It contains, as might be expected, large quantities of iodine, chiefly, according to Gaultier de Claubry, in the form of iodide of potassium. *Fucus vesiculosus* was at one time official in the Dublin Pharmacopœia, and is by no means a new remedy. Pliny describes it under the name of *Quercus marina*, and says it is useful for pains in the joints and limbs. In the eighteenth century it was largely employed by Gaubius, Aunel, Baster, and others, in the treatment of scrofula, bronchocele, and enlarged glands, and even for scirrhus tumours. Its charcoal, known as *Ethiops vegetabilis*, was used in the same class of cases. The fucus has also been found useful in skin diseases and asthma. On the discovery of iodine, in 1811, by Courtois, the saltpetre manufacturer of Paris, it for a time fell into disrepute. In the year 1862 its use was revived by Professor Duchenne-Duparc, of Paris, who whilst using it experimentally in the treatment of psoriasis, found that it possessed the singular property of causing the absorption of fat. The fucus can be taken either as an infusion, made by steeping half an ounce or a small handful in a pint of boiling water, or in the form of pill or liquid extract. The dose of the infusion is about a cupful, but it is so abominably nasty that few can be induced to take it. The pills contain each three grains of the alcoholic extract; and, to begin with, one is taken in the morning, an hour at least before breakfast, and another in the evening, about three hours after dinner. The dose is increased by a pill a day, until the patient is taking ten every morning and evening. It is directed that the ten pills should be taken *dans le même sautoir*, and that a greater interval should not be allowed to elapse between each two pills than is necessary for deglutition. The fluid extract may be given in drachm-doses, and it is said that the best results are obtained when both the solid and liquid extracts are taken. In favourable cases, the sufferer may expect a reduction in weight of from two to five pounds in the week. Unfortunately, however, the fucus appears to be somewhat tardy in its action, and the patient should lay in a good stock of the drug before commencing treatment. In successful cases one of the earliest effects is an excessive diuresis, and the urine is said to become covered with a film of a beautiful nacreous aspect. In one carefully recorded case, the patient did not observe this, but noticed that his urine was very high coloured, and that its odour was extremely offensive. The next action of the drug is usually on the bowels, and the patient has many calls to relieve himself, without, however, being able to pass anything more than a little mucus. Sometimes the feet and body exhale a peculiar fusty smell, so that the patient is a nuisance both to himself and friends. After this, as a rule, the reduction in weight takes place. Occasionally, however, the opposite effect is produced, and the patient becomes stouter than ever; in fact, fucus has been recommended as an "anti-lean". By some authorities it is stated that the fucus should be gathered at the period of fructification, about the end of June, and that it ought to be rapidly dried in the sun; whilst other and equally eminent authorities insist that it should be gathered only in September, and that it should be allowed to dry slowly in the shade, a high temperature, accord-

ing to them, destroying its active properties. It is generally agreed, however, that the roots and stalks should be rejected, and that the fucus gathered on the west coast is superior to that of the east. We understand that as a matter of fact most of our fucus comes from Billingsgate market, it being extensively employed for packing fish. It must be confessed that we know little or nothing of the mode of action of this remarkable drug. We are told that it "stimulates the absorbents", but that is throwing very little light on the subject. What we want is a real sound systematic study of its uses and properties, both in the physiological laboratory and at the bedside. When it has been thoroughly and carefully worked out, as so many drugs have been of late years—pilocarpine and gelsemin, for example—we shall be able to form an opinion as to its value, of which at present we are quite in the dark.

20. *Reverdin's Mixture for Blennorrhagia.*—Dr. Jacques Reverdin of Geneva prescribes the following mixture at the outset of acute blennorrhagia. It modifies very advantageously the nature of the urine, and is well tolerated by the patient:—Pounded sugar, 100 grammes; bicarbonate of soda, 20 grammes; benzoic acid, 6 grammes; essence of lemon, a sufficiency. A teaspoonful to be taken six times a day in a tumbler of water. To be continued until, the discharge being altered in character, injections and balsams are prescribed.

PATHOLOGY.

RECENT PAPERS.

1. FÉRÉOL.—Myocardite Suppurée Primitive. (Primary Suppurative Myocarditis.) (*Union Méd.*, 1879, Nos. 27 and 28.)

2. FLEISCHER.—Beitrag zur Chemie des Diabetischen Harns. (A Contribution to the Chemistry of Diabetic Urine.) (*Deut. Med. Wochenschr.*, 1879, No. 18.)

3. DELLINGER.—Zwei Fälle von idiopathischen Gastritis Phlegmonosa. (Two Cases of Idiopathic Phlegmonous Gastritis.) (*Deut. Arch. für Klin. Med.*, Band xxii.)

4. ROSENSTEIN, L.—On Bright's Disease, and Primary Cirrhosis of the Kidney. (*Brit. Med. Journ.*, vol. ii, 1879, p. 459.)

5. DASTRE and MORET.—On the Influence of Asphyxia on the Circulation. (*Le Progrès Médical*, No. 46.)

6. SEMMOLA.—The Pathology of Bright's Disease. (*Brit. Med. Journ.*, 1879, p. 501.)

7. VAIS, J.—A Contribution to the Doctrine of the Connection between Heart and Kidney Disease. (*Diss. Berlin*, 1878.)

8. COHNSTEIN.—On the Cardiac Hypertrophy of Pregnancy. (*Virchow's Archiv*, Band 97, Heft 2, 8, 146.)

9. LASSAR.—Ueber den Zusammenhang von Hautresorption und Albuminurie. (The Connection between Cutaneous Absorption and Albuminuria.) (*Virchow's Archiv*, Band 77, Heft 2.)

10. HEUBNER.—Hæmoglobinuria after Scarlatina.

11. VAN SANTVOORD.—Sudden Death during Thoracentesis. (*New York Med. Record*, August 23, 1879.)

12. DAVIS.—On Abscess of the Liver.

13. MONOD and TERRILLON.—On Lymphadenoma of the Testicle. (*La France Médicale*, November 1.)

14. MARCHAND.—A Case of so-called Cysticercus Racemosus of the Brain.

15. OEMLER.—On Mortification of the Spleen. (*Arch. für pract. Thierheilk.* P.S. 104.)

16. KLEMENTOWSKY.—On Osteomyelitis Gangræna Neonatorum.

1. *Féréol on Primary Suppurative Myocarditis.*—

M. Féréol reports the case of a cook, aged 44, who twelve years before had had intermittent fever, but had been otherwise healthy, until fourteen days before admission, when he was taken with sharp transient pains in the middle of the chest. On admission there were extreme dyspnoea, slight enlargement of the heart, very energetic cardiac action, without alteration of sounds, scarcely perceptible but very rapid pulse, fine crepitant râles at the bases of the lungs posteriorly, no dulness, some bloody sputa. The heart-sounds became feebler, the stools dysenteric; œdema and cyanosis of the lower extremities set in, and the patient died on the 7th day. The necropsy shewed slight enlargement of the left ventricle. In its muscular wall, near the slightly clouded or thickened endocardium, were numerous circumscribed abscesses with hæmorrhagic peripherics about the size of a pin's head, most numerous at the apex, where the endocardium was covered with old clots, containing purulent masses in their centres. In the aorta there were fresh patches of endarteritis side by side with old atheroma. There was atheroma in other arteries, but not in the coronary arteries. There were no emboli or infarcts. The lungs were hyperæmic; the spleen was not enlarged, its capsule was thickened. Microscopical examination showed purulent infiltration between the muscular fibrillæ around the abscesses, and a peculiar degeneration of the fibrillæ, which became bright shining, not staining with picrocarmine, and showing a double contour.

2. *Fleischer on the Chemistry of Diabetic Products.*

—Fleischer says that diacetic acid in doses of 1 to 2 cubic centimètres to rabbits, or 3 to 10 cubic centimètres to dogs, by the mouth or subcutaneously, caused only moderate transient dyspnoea, and was not to be detected in the urine, although the breath smelt of it. He himself experienced no effects from swallowing two grammes; the urine gave no red colour with perchloride of iron, and contained no acetone. Diabetic urine, which gave the perchloride reaction, produced no acetone odour on warming, and gave with ether, after previous acidulation, no body which showed the reaction. The reaction also disappeared on distilling with or without precipitation by acids or alkalis, while diacetic acid added to normal urine makes itself noticeable by its smell, and after acidulation, is converted into ether, and may be obtained by distillation. Diabetic urine, after standing twenty-four hours with yeast in a warm place, gave the perchloride reaction, while normal urine with diacetic acid, treated in the same way, gave no reaction. Therefore it must be accepted that the perchloride test in diabetic urine for diacetic acid fails. The food seems to influence this reaction in diabetic urine, as it disappeared in one case after absolute meat-diet. Acetone, as well as alcohol, may be demonstrated in diabetic urine, even when the perchloride reaction is absent; the quantity increases the longer the urine stands. It is probably produced by a decomposition of sugar, under the influence of some particular ferment.

3. *Dellinger on Diffuse Phlegmonous Gastritis.*—Dellinger records the following case of diffuse phlegmonous gastritis. A pensioner, aged 53, a great brandy-drinker, was taken ill three days previously with severe rigors, followed by fever (100.4 to 104.5

Fahr.), frequent vomiting and continual diarrhoea. The epigastrium was distended and very tender. After a few days there were great resistance in the gastric region; increasing loss of strength; delirium; some more rigors one day before death, which occurred on the eighth day. At the necropsy, the wall of the stomach was found much thickened. The mucous surface along the fundus and the great curvature was perforated like a sieve by small losses of substance, out of which thick yellow pus could be squeezed. On section through other parts of the stomach, in some places diffuse purulent jelly-like infiltration, in other places submucous abscesses as large as hazel-nuts, were present. The chief part of the infiltration was between the mucosa and muscularis, but in many places involved the muscular and even the subserous tissue. Besides these lesions there were commencing liver cirrhosis, and chronic gastric and intestinal catarrh. In some parts of the gastric peritoneum there were thin fibrous false membranes. In respect to the diagnosis, he lays stress on (1) the fever and general symptoms; (2) the nature of the pain in the stomach, which, unlike peritonitis, was not increased by movements; (3) the increased resistance in the epigastrium. His second was one of gastritis phlegmonosa circumscripta. A woman, aged 32, was taken ill with rigor, fever, pain in the stomach, and vomiting. In the epigastrium, which was at first only painful on pressure, resistant, and distended, a tumour as large as a fist developed, which disappeared, after the patient at the twentieth day vomited up a quarter of a litre of bad smelling, yellowish-white blood-streaked pus, with a feeling as if something was torn in the stomach. Very rapid convalescence followed. The patient had complained of gastric pain a year before, so it is possible that there may have been an ulcer, which led to the formation of the abscess.

4. *Rosenstein on Bright's Disease and Primary Cirrhosis of the Kidney.*—Professor Rosenstein, of Leyden, at the sixth International Congress of Medical Science (September 1879) read a paper of which the following summary is given in the *British Medical Journal* (1879, vol. ii, p. 459). 1. The anatomical changes in the kidneys which form the foundation of the disease that was first described by Bright, affect both the parenchyma and the connective tissue of the kidneys. 2. There cannot be properly said to exist strictly parenchymatous nephritis, or strictly interstitial nephritis. It has been sufficiently demonstrated by experiments and clinical observation that, in every case of diffuse inflammation of the kidneys, both histological elements are affected. 3. Diffuse inflammation always leads to certain pathological changes in this organ, known as white kidney and red granular kidney. Both may finally develop into the "atrophic kidney", the only difference being that in the former the parenchymatous tissue is most affected; in the latter, the interstitial tissue. Both varieties may be distinguished clinically by analysing the urine. The symptoms of atrophy are common to both forms. 4. Clinical observations tend to show that the red granular kidney, or, as it is now called, primary cirrhosis of the kidney, is preceded by a period of tumefaction. This assertion is confirmed by anatomopathological observations. 5. The description given by Bright relates principally to the white granular kidney. Here, as well as in the other variety, the morbid process passes through two stages, as has been shown both clinically and anatomically.

5. *Dastre and Moret on the Influence of Asphyxia*

on the Circulation.—MM. Dastre and Moret have presented to the Société de Biologie meeting of November 8th) the results of their observations on the influence of asphyxiated blood on the heart and vessels. They have observed the vessels directly, as in the ear of the rabbit, and they say the arteries dilate to even five or ten times their usual size. This phenomenon is universal throughout the skin, and may be produced by any mode of asphyxiating the animals. As to the cause of the dilatation, at present they can only say that it is not due to paralysis of the vaso-constrictor nerves, as the vessels may be readily made to contract by pinching the ear. But while the vessels of the skin are dilated, those of the internal viscera are contracted, and there is a complete antagonism between the two systems; when the cutaneous vessels are contracted, those of the intestines and viscera are, on the contrary, dilated.

6. *Semmola on the Pathology of Bright's Disease.*—Professor Semmola, of Naples, presented to the Medical Section of the sixth Amsterdam Congress of Medical Science, held in September 1879, an elaborate paper on the pathology of Bright's disease. He would restrict the term Bright's disease to bilateral affections of the kidney, not forming part of general degenerations (fatty, amyloid, etc.), or the consequence of the irritation of foreign bodies (alcohol, resinous matter, cantharides). True Bright's disease is a pathological specialty, the characteristics of which, *intra vitam*, are albuminuria, absence of urea, cachexia, and a peculiar anasarca. Anatomically, the lesions present any stage of a chronic inflammatory process, which progresses very slowly and extends over the whole organ. The true cause of the disease is the action of moist cold on the skin, leading to suppression of the respiratory cutaneous functions. The absence of these functions leads to (1) cutaneous ischæmia; (2) accumulation in the blood of matter which ought to have been excreted by the skin; (3) alteration of the albuminoid bodies, so that those which originate from the peptones are not assimilated; (4) decrease in the combustion of the albuminoid bodies, and consequently in the production of urea. These produce (1) renal hyperæmia; (2) irritating effect of said hyperæmia, owing to the accumulation in the blood of substances that ought to have been excreted by the skin, and its dyscrasic condition in consequence; (3) elimination of the albumen through the kidneys (the depuratory organs *par excellence*), because, the constitution of the albumen being altered, owing to paralysis of the respiratory function of the skin, it has become an useless substance, and may almost be regarded as a foreign body in the organism; (4) the progressive decrease of the urea in the urine is the result of the decrease of its production. Thus there results a double series of effects: (1) general nutritive lesions with the characteristic consequences; (2) the anatomical development of the inflammatory process of both kidneys, from the first stage to the last.

7. *Vais on Kidney-Disease.*—Out of one hundred cases of kidney-disease in the records of the Charité Hospital at Berlin, there was granular atrophy in thirty-eight, of which eight were without cardiac hypertrophy; in the other thirty, twenty-three times the left, seven times the whole heart, was hypertrophied, and sixteen times there were no other cardiac or vascular anomalies. Parenchymatous nephritis occurred in twenty cases; in fourteen with hypertrophy of the heart, in four with hypertrophy of the

left side only. Amyloid nephritis was found in twenty-one cases; four with left-sided hypertrophy of the heart, one with only right-sided hypertrophy. Of thirteen cases of "interstitial nephritis", eight occurred with left-sided, three with both-sided cardiac hypertrophy. Many cases showed different conditions co-existing, and are not here included.

8. *Cohnstein on the Cardiac Hypertrophy of Pregnancy.*—Cohnstein admits the hypertrophy of pregnancy, but connects it with chlorosis, that is to say, narrowing of the aorta, which he regards as commonly occurring during pregnancy. Dilatation occurs if there be anæmia as well.

9. *Lassar on Albuminuria.*—Lassar refers to his case of albuminuria, and œdema of the skin, in a man who had rubbed himself with petroleum for scabies, and whose kidneys *post mortem* showed no traces of œdema. He has found that by rubbing animals (rabbits and dogs) with croton oil, and so producing extensive eczema, the urine becomes very albuminous; while an extensive subcutaneous inflammation, produced by injecting turpentine into the cellular tissue, does not cause albuminuria. Gergens (*Archiv für exp. Pathol.* Bd. vi) has proved that subcutaneous injection of neutral chromate of potash causes rabbits to pass urine containing much albumen and casts. Kabierske (Weigert, *Virchow's Archiv*, Band 72), found that this chronic albuminuria was due to a croup-like necrosis of the convoluted tubercles; the interstitial tissue, the glomeruli, and the epithelium of the straight tubercles being quite normal. On injecting a solution of aniline blue, which does not pass through the normal vessels, the entire vascular apparatus, glomeruli, and capillary network showed a normal condition. Even the epithelium, much altered in its microscopical appearances, gave with injection its characteristic reactions. For this purpose Heidenhain's solution, sulphindigotate of soda, was employed. If 20 to 25 cubic centimetres of a cold saturated solution of indigo-carmin be injected into a healthy rabbit, after twenty-five minutes the living tissue is coloured blue, the epithelial nuclei dark blue, granules of pigment pass into the convoluted tubes, and the urine is coloured deep blue. If the same be done to a rabbit with chromalbuminuria, one finds the epithelial nuclei tinged only blue or overlaid with particles of dye, but the convoluted tubes are filled with dye and the urine is stained. This proves that the dye is secreted not by the glomeruli, but by the epithelium, and that in chromalbuminuria the epithelium has become more than normally permeable. Further experiments with petroleum on animals have shown that inhalations and injections of petroleum do not cause any renal disturbance, but that inoculation causes first a resinous material to appear in the urine; next, if repeated, a substance giving the reaction of peptone; and, finally, when continued, true serum-albumen. Lassar proceeds to argue that the skin and kidneys are co-efficient organs, and that the latter can and does absorb very readily substances applied to it in the shape of oil; and that when so applied their only channel of exit from the body is through the kidneys, when they ultimately cause albuminuria by irritating those organs.

10. *Heubner on Hæmoglobinuria after Scarlatina.*—O. Heubner records the case of a little girl, aged four years and three quarters, who was attacked by scarlatina. On the thirteenth day she looked very pale, and two days later her urine contained albumen and casts. In the course of this day, vomiting, fever, restlessness, and dyspnoea came on; the

urine became brownish-black, showing the characteristic bands of the hæmoglobin spectrum, without there being any corpuscles to be discovered with the microscope. At the same time the skin was waxy-white, with a peculiar greyish-green tinge. On the following day, there was pain in the splenic region and palpable enlargement. After two more days there was no more hæmoglobin, and only a trace of albumen. The urine was very scanty. She died collapsed on the fifth day. At the necropsy both pleural cavities contained about 100 grammes of reddish-brown turbid serous fluid. The organs were generally anæmic. The spleen was enlarged. About 60 grammes of serum were contained in the abdominal cavity. The kidneys were of normal size; no ecchymoses; on section, their pyramids were brownish-black, and similarly coloured streaks could be followed from them outwards through the cortex. On microscopical examination, the tubules were found to be full of reddish-yellow amorphous granules and masses, such as were seen in the urine sediment during life. The renal epithelium in places showed cloudy swelling, and the interstitial tissue of the cortex was broadened and rich in nuclei. The capillaries were only moderately full, nowhere extravasations.

11. *Santvoord on Sudden Death during Thoracentesis.*—Dr. Van Santvoord gives a very plausible explanation of the cause of sudden death in rapid thoracentesis. He says that, when we aspirate a chest full of fluid we cause in the pleural cavity a partial vacuum. The outside atmospheric pressure seeks to fill by the air rushing through the larynx into the collapsed lung, by pressing forward the blood from the peripheral veins into the venæ cavae and right heart, and by pressing in the chest-wall. Suppose now the aspiration is conducted too rapidly, the lung, long compressed by fluid, and bound down by adhesions, expands imperfectly. The chest-wall is capable of collapsing only to a limited extent. The success of the compensation falls obviously to the third factor. The venous blood is forced in great quantity into the right heart. Overdistention and paralysis of the right heart result; and the patient suddenly expires.

ROBERT SAUNDBY, M.D.

12. *Davis on Abscess of the Liver.*—Dr. J. C. Davis concludes, from his histological study, that abscess of the liver invariably starts in the interstitial connective tissue of the liver, and involves the lobules secondarily; that the connective tissue, blood-vessels, and epithelia of the lobules, become transformed into embryonal elements, which ultimately become isolated and form pus-corpuscles; that the pus-corpuscles are, therefore, the direct offspring of the liver-tissue, both connective and epithelial. No emigration of pus-corpuscles could be proved. In adopting the view that the liver-cells actually form pus-cells, the author insists upon the correctness of Heitzmann's description of protoplasm, that it is a reticulum containing living matter, and he argues from this that there is no real separation between Glisson's capsule and the hepatic cells, since both alike are continuous by their reticulum.

J. F. GOODHART, M.D.

13. *Monod and Nèpveu on Lymphadenoma of the Testicle.*—Drs. Monod and Terrillon endeavour to show that lymphadenoma of the testicle constitutes, from the anatomical point of view, a distinct and easily recognisable form, possessing clinical characteristics peculiar to itself. M. Malassez was the first

to recognise the characteristics of testicular lymphadenoma in a preparation which was sent to the histological laboratory of the College of France in 1874 by M. Péan. This case and four others collected since that time form the basis on which MM. Monod and Terrillon have constructed their memoir. Lymphadenoma of the testicle does not generally attain any great size. As a rule, the swelling is of a regular form, and constitutes an ovoid mass, which at first sight gives the impression of a simple increase in the size of the gland of inflammatory or diathetic origin. The consistence is equal; the tumour is resilient to the finger and elastic. When exposed the surface is equal, slightly lobulated, of a transparent grey colour, not very vascular, giving out a little liquid when scraped, and not showing any trace of softening; division shows the appearance of a simple hypertrophy of the testicle. It is probable that the tumour develops itself almost exclusively at the expense of the testicle itself, the epididymis being simply thrown back on the sides of the principal tumour. The tunica vaginalis sometimes contains a small quantity of liquid, but it has never yet been found adherent to the morbid tissue, which does not overlap the tunica albuginea. Microscopic examination shows that the special fact which forms the characteristic of lymphadenoma is the existence of a reticulum similar to that of the lymphatic glands. The trabeculae which constitute it circumscribe reticula, containing numerous cells, all alike of the same form and size. These rounded cells measure 8 to 12 millimètres; they show a voluminous nucleus, provided with many nucleoli and a scanty protoplasm. At the surface of the trabeculae, flat cells with elongated nuclei can be distinguished. Vessels traverse this tissue, giving insertion at their external surface to the trabeculae of the reticulum. The tubules of the testis in the points where they are preserved, are separated by considerable spaces occupied by the reticulum just described. The pathological tissue seems to have developed itself in their interval at the expense of the connective tissue. The tubes themselves are changed; a modification analogous to that of the intercellular tissue is recognised throughout the whole thickness of the wall; a true reticulum is there found. The tubes end by disappearing before the progress of the new growth. Exploration gives imperfect aid in the diagnosis between hematocele, certain forms of carcinoma, and a lymphadenoma. Examination of the blood gives a negative result, as in lymphadenoma of the lymphatic glands. The study of the progress of the affection gives more satisfactory indications. In four out of the five cases collected by the writers both testicles were attacked at the same time, or very nearly the same time, and the rarity of double sarcocele is well known. Another very important point to be considered is, that this affection becomes generalised without cachexia, and consequently easily passes unnoticed. This generalisation may occur in the cutaneous and subcutaneous tissues at some distance from the primary seat of the evil. The prognosis is very serious, for the lymphadenoma is perhaps of all testicular neoplasms that which shows the greatest tendency to a rapid generalisation, which is so much the more to be dreaded, as it goes on in the most insidious manner. Surgical intervention is only justifiable, when the most minute examination cannot make evident any indication of general infection of the economy. H.

14. Marchand on a Case of so-called Cysticercus

Racemosus of the Brain.—The following interesting case is reported by Dr. Marchand. A man, aged 52, suddenly one day, while driving, experienced hallucinations of sight, palpitations, and a sensation of anxiety, together with a rush of blood to the head. This first attack was of short duration, but others subsequently followed frequently, and were complicated with headaches, singing in the ears and vomiting. Ten years later he suddenly became blind with both eyes, but gradually recovered his sight. His sense of smelling was also affected. He died two and a half months later. The necropsy revealed about twenty older cysticerci scattered over the surface of the brain, and ten to twelve soft cysts of the size of a pigeon's egg embedded in the tissue of the pia mater. The latter turned out to be cysticercus-cysts. Their walls contained a white tubular opaque structure, consisting of particles of fat, as well as secondary and tertiary daughter-cells. Unfortunately, it was impossible to obtain the cysts together with the heads of the cysticerci, although the latter were wedged in between the large cells. The calcareous bodies and structure of the wall resembled the characteristic formations of cysticerci. The heads belonged to the species of *tænia solium*. The author assumes that the cyst grew independently of the scolex, as is often the case with *echinococcus*-cysts. A similar case has been described by Virchow in the *Charité Annalen* for 1877, where, besides a common cysticercus, a cysticercus-cyst, of the size of a pigeon's egg, was found in the fourth ventricle, and had caused the death of the patient.

15. Oemler on Mortification of the Spleen.—The present contribution to the question of the mortification of the spleen deserves special attention, not only on account of the number of animals, to be reckoned by hundreds, experimented upon by the author with the contagion of the mortification of the spleen; but also because it gives a view of the results of inoculation, not only in one but in many different species of animals. In a former treatise, the author has excluded the eventuality of a successful transference of the mortification of the spleen through the intact external skin, having proved that the poison only then took effect when the germs found entrance into the blood and the tissues by minute erosions or wounds. In this treatise, he examines in succession the mucous membranes of the conjunctiva, the nose, the urethra and the vagina, of the cloacæ and the digestive canal, as regards their penetrability by the bacilli of the mortification of the spleen. For example, he used for his experiments, in transferring the blood of the mortification of the spleen on the intact conjunctival membrane, seven horses, ten oxen, four sheep, two goats, five pigs, twenty-eight dogs, six cats, sixty-eight tame and two wild rabbits, two hares, six rats, seven mice, seven foxes, six geese, ten ducks, three turkeys, ten fowls, twelve pigeons, eight ravens, eight magpies, seven sparrows, five goldhammers, two finches, two goldfinches, five canaries, one eagle, two buzzards, three kites, two sparrow-hawks, two stannels, three large owls, two small owls, three jackdaws, two jays, two starlings, and four frogs. Into the conjunctival sacs of all these animals, the infectious blood of the mortification of the spleen, the poisonous quality of which had been established, was introduced, and the eyelids passed over it for a short time. This experiment produced neither local nor general infection. In opposition to this negative result are the following. In Experiment 35, the dropping in of the infectious blood of a sheep into the apparently un-

injured lids of a foal, induced local and general infectious anthrax. In Experiment 36, a lamb was successfully inoculated by the dropping in of the blood belonging to a pig which had died from mortification of the spleen. Experiment 38, in a sheep; 39 and 40, in two young goats; 41 and 42, in two young cats; 43 and 47 in two rabbits, gave the same results as Experiment 36. After these numerous positive successes of inoculation, it is rather somewhat singular that the author draws the general inference, that in all species of animals the poison of mortification of the spleen cannot penetrate the completely intact conjunctival sacs; because it seems rather arbitrary in him to assume that in all positive experiments minute wounds and lacerations of the conjunctival membrane existed before the experiment, but were too small for discovery. With some modifications, all experiments and their results remained analogous in all the mucous membranes before mentioned. Especially numerous were the fatal cases in injections with the blood of the mortification of the spleen into the vagina; although the author specially mentions, that laceration of the skin was carefully prevented during the injection. The animals which died through these experiments showed no local affections, and the author sometimes did not find any bacilli in their blood. Successful inoculation with this blood, however, does not allow of any doubt that infection takes place through the vagina. The *résumé* of the author is nevertheless the same here as before. The theoretical result of all experiments, as well as of the observations which have been made by others, either in intended or accidental experiments (habitual feeding of dogs with the offals of the carcasses infected by mortification of the spleen) is that the contact of the medium of the mortification of the spleen with completely intact mucous membranes is harmless, but that the smallest lacerations are as prompt mediums for the contagion as the blood itself. These minute lacerations, wounds, or abrasions of the mucous membranes being never known before the experiments, the latter practically demonstrate nearly the opposite of the theory maintained by the author, viz., that contact is dangerous in all cases, the chances of the transmission being only different in degree and not so great as when the contagion of the mortification of the spleen is inoculated directly into the blood. In the latter case, the author has also had many inoculations without any result.

16. *Klementowsky on Osteogingivitis Gangrenosa Neonatorum.*—The author describes under this name three very similar cases, the first he ever met with during twenty years' practice among children, in the Foundling Hospital at Moscow. CASE I. A boy, aged six days, well nourished, healthy, was taken ill with high fever, and an erysipelatous flush on the right cheek. The following day the latter had disappeared, but an oedematous dark swelling had appeared on the gums of the right upper jaw. Towards night two teeth broke through the swelling, and fell out; the swelling diminished in size; ulceration set in four days later, and the child died. At the necropsy gangrene of the upper jaw and pyæmia were found. CASE II. A girl aged one month and a half, badly nourished, had high temperature, and a small gangrenous abscess on the gums of the upper jaw on the left side. On the second day, a tooth broke through the abscess and fell out, the swelling diminished, the temperature rose, and a gangrenous abscess formed

on the right side of the upper jaw. On the fourth day it began to heal; on the fifth, peritonitis set in; and on the sixth, the child died. The necropsy revealed purulent gingivitis with ulcerations, and diffuse purulent peritonitis. CASE III. A boy, aged thirty-eight days, well nourished, had gastric catarrh a short time ago. There was high temperature, with a purple swelling of the size of a nut on the gums, corresponding to the right upper eye-tooth. On the second day a tooth pierced the tumour, and fell out; was replaced by a dentiform granulation surrounded by necrotic tissue. On the third day the swelling and granulation diminished, and suppuration set in. The wound healed during the following days; but on the fourth the temperature again rose, and a hard reddish swelling appeared on the left side of the gums, corresponding to the upper molar teeth. No pus escaped on incision. During the following days necrosis set in, the swelling beginning from the edges of the incision, gradually exposing a tooth and the bone in the alveolus. There were foetid suppuration, and a gangrenous perforating abscess of the left cheek. Death occurred on the forty-seventh day. At the necropsy it was found that the two posterior thirds of the left half of the upper jaw had become one gangrenous cavity, the periosteum was detached from the zygomatic bone, and the latter was necrotic.

SURGERY.

RECENT PAPERS.

1. SCHAFFER, MAX.—On the Treatment of Adenoid Vegetations in the Naso-pharynx.
2. VOLTOLINI.—On the Treatment of Ranula by the Galvanic Caustery.
3. BETZ.—On Hæmatoma of the Upper Extremity of the Oesophagus.
4. SILVESTRI.—On Amputation of the Hand in the continuity of the Carpo-metacarpal Joint. (*Medicina Contemporanea*, August 1879.)
5. SCARENZIO.—A Lithotrite with Dynamometer. (*Annali Universali*.)
6. DUNCAN, JOHN.—On the Healing of Burns and Ulcers by the Union of Granulation. (*Brit. Med. Jour.*, Oct. 1879, p. 603.)
7. DAVY, RICHARD.—On the Use of the Lever in controlling Hæmorrhage during Amputation at the Hip-joint. (*Ibid.*, Nov. 1879, p. 685.)
8. LAWSON, GEORGE.—On Cancer of the Breast following Eczema of the Nipples. (*Lancet*, Nov. 1879, p. 656.)
9. MOUTARD-MARTIN.—On Operation for Empyema. (*Revue Médicale*, Nov. 1879.)
10. LE DENTU.—On Injections of Chloride of Zinc in Ranula. (*Journal de Médecine et de Chirurgie Pratiques*, November 1879.)

1. *Schaeffer on the Treatment of Adenoid Vegetations in the Naso-pharynx.*—Dr. Max Schaeffer recommends for specialists and those having many of these cases, the galvanic-caustery, in preference to other methods of removing these growths. He has employed it in forty-two patients, whose age varied from five to thirty years. They were treated as out-patients, and the growths removed in from five to fifteen sittings. Many of the patients when examined after two years' interval, showed no recurrence of the growths. The author does not guide the caustery by the eye, but, after having accurately noted the position of the tumours with the rhinoscope, operates without the mirror. He has never seen any bad results from the operation.

2. *Voltolini on the Treatment of Ranula by the*

Galvano-Cautery.—Professor Voltolini relates the case of a man, aged 54, suffering from a ranula, the size of a potato, of five years' duration. It not only interfered with respiration and made the patient sleep with his mouth open, but had caused two teeth of the lower jaw to fall out, and impeded mastication by preventing approximation of the jaws. During deglutition the saliva issued from the ducts of the sublingual gland in small jets. On dividing the tumour transversely with a knife-shaped cautery, thick pasty contents containing hairs protruded, and the tumour proved to be a dermoid cyst. In touching the interior with the cautery considerable hæmorrhage occurred, which only ceased on plugging the cavity. In four weeks' time the patient had entirely recovered, except a small point of suppuration, which was again touched with the cautery. As both ducts of the sublingual gland were normal in this case, the tumour could not have been due to an obstruction of these structures.

3. **Betz on Hematoma of the Upper Extremity of the Oesophagus.**—Dr. Betz describes the following case. A woman, aged 30, whilst drinking coffee experienced a violent pain, with the feeling of a foreign body in the throat. Immediate laryngoscopic examination showed directly behind the arytenoid cartilages an elongated livid tumour of the size of a large bean. On sounding, it felt like a vesicle tightly filled with fluid, and the sound could be passed down the oesophagus behind it. In three days it had entirely disappeared, under the application of ice, etc. Fifteen years previously the patient is said to have suffered in a similar manner, and she is liable to hæmorrhages on slight wounds and blows. The author considers that the tumour was due to submucous hæmorrhage, from the plexus of veins, provided with very thin walls, which according to Dr. Zuckerkandl, exists at the upper end of the oesophagus. The return of the venous blood may also have been impeded in this case by enlargement of the cervical glands which was present. The author cautions against opening any such swelling, by which uncontrollable hæmorrhage might be produced. E. C. BABER, M.B.

4. **Silvestri on Amputation of the Hand in the Continuity of the Carpo-Metacarpal Joint.**—Dr. Silvestri proposes a new method of amputation of the hand in the continuity of the carpo-metacarpal joint, to which he gives the name of the method by "double palmar flap". He performs the operation as follows. The hand having been placed in the prone position, an assistant grasps the wrist, and makes the skin tense, while the operator traces a curvilinear incision, with its convexity downwards, through the skin and subcutaneous cellular tissue. This incision should commence and terminate half a centimètre below the tubercles which mark the upper extremities of the first and fifth metacarpal bones. It should include the skin, but not the deeper tendinous masses. The hand is now to be supinated, and a double palmar flap traced out, the external portion of which comprises the hypothenar eminence, the internal the thenar. The starting point of these incisions should be from 22 to 25 millimètres below the fold in the skin of the forearm, which marks the position of the radio-carpal articulation. They should extend downwards to the level of the interdigital fold of the thumb, and comprise the skin and palmar fascia, as far down as the layer of flexor tendons. The hand is now once more pronated, and the knife entered under the

extensor tendons, which it divides transversely, commencing with those of the little finger. The cut ends of the tendons are next turned down, and the carpo-metacarpal articulation comes into view. After division of the radial extensors from above downwards, and of the insertion of the abductor longus pollicis, which are the best guides to the line of articulation, the joint may be partially opened on its dorsal aspect by one sweep of the knife. The author uses the word "partially" advisedly, as it will be found impossible to dissociate completely the metacarpal bones of the last four fingers. This is owing to the existence of a hitherto undescribed interosseous ligament, which is attached superiorly between the two contiguous facets of the os magnum and unciform, and inferiorly between the two facets of the third and fourth metacarpal bones. It is a fibrous band, filling a longitudinal sulcus, especially designed for its reception. When this ligament has been divided, the joint at once falls open. The final step of the operation is to cut through the two fleshy masses of the thenar and hypothenar eminences, keeping the knife as closely as possible to the bones, and following the lines traced out in the early palmar incisions. The result is a double flap, which when laid over the stump will appear single, and will be found to adapt itself very accurately to the dorsal flap. The wound should be closed with sutures, and a drainage tube inserted in the radio-carpal canal, which will be more or less patulous, owing to retraction of the flexor muscles and tendons. As regards the objections which may be urged against the operation, the chief are (a) the difficulty of execution, and (b) a greater liability to inflammation and purulent infiltration, due to the presence of so many small bones and articulating surfaces in the stump. As to the former of these, the author holds it has no real weight, except in the case of very old subjects, in whom possibly the articulating surfaces might be ossified. As to the latter, it must be combated by careful antiseptic treatment. The advantages claimed are a greater length of limb, a skin-covering admirably adapted to bear friction or pressure, and a form of stump more suitable for the application of any artificial means of prehension. The memoir is carefully written, and accompanied by five lithographic drawings, which tend very considerably to elucidate the somewhat complicated steps of the operation.

5. **Scarenzio's Lithotrite with Dynamometer.**—Dr. Scarenzio, with a view of lessening the risk of bending or breaking the blades of a lithotrite during operation—accidents which he has seen occur—suggests attaching a dynamometer to each instrument. He has done so to a lithotrite of his own, and has successfully experimented with it on the dead subject. Any instrument, by a few simple alterations in construction, can be fitted with some such arrangement. The surgeon would thereby have at hand a ready means of testing his lithotrite before using it, and would no longer, as at present, be dependent for success in a critical operation on the skill or conscientiousness of a manufacturer. L. FORBES.

6. **Duncan on the Healing of Burns and Ulcers by the Union of Granulations.**—In a severe burn on the lower part of the thorax in a young man, that refused to heal, and where grafts had sloughed, Mr. Duncan determined to try to bring about union by the third intention; that was, to draw together the edges of the large ulcer, three inches in diameter, by means of button-sutures. On the ninth day the sore

was entirely healed. Encouraged by this success, a second sore, on the shoulder, was similarly treated, excepting that the sutures did not exert so much traction, and keep the whole surfaces of the granulations in proper apposition, consequently the results were not equally gratifying, although the improvement was great. In two other cases Mr. Duncan has succeeded in curing by this method two ulcers, one syphilitic, on the forearm; the other strumous, on the neck. For success, in thus treating large ulcerating surfaces, it is necessary that the granulations be healthy, also that the sores be situated on those parts where the margins can be brought into apposition. The buttons used should be at least an inch long, with Lister's projections on the side.

7. *Davy on the Rectal Lever to Compress the Common Iliac Artery in Amputation at the Hip-joint.*—Ten cases are recorded in which this simple and efficient plan was resorted to: the total amount of blood lost, during the ten operations, was under eighteen ounces, and the recoveries were 80 per cent. The lever is of ebony, and varies from eighteen to twenty-one inches in length. The surface is very smooth and polished, and its ends are rounded off much like the finger tips. The maximum diameter is five-eighths of an inch, the minimum three-eighths. The rectal end is graduated to an inch scale, so that its position when in use may be easily seen. Messrs. Wright and Co. of New Bond Street are the makers.

8. *Lawson on Cancer of the Breast following Eczema of the Nipples.*—A paper, followed by an interesting discussion, was read by Mr. Lawson at the Clinical Society, when the views, that Sir James Paget first brought forward, as to the relationship eczema of the nipples held to cancer in the future, were ably stated. The important practical question was, whether, in cases of intractable "eczema" of the nipple the breast should be excised. Dr. Thin, in the course of the discussion, stated that he did not believe the cutaneous change in these cases to be eczema. He did not regard the "eczema" as preceding the cancer, but the contrary. To treat such an affection as if it were an eczema was to ignore its cancerous condition. Sir James Paget differed totally from the views of Dr. Thin from a clinical point of view, because there was a time in such cases when the disease was not cancerous, and a time beyond which cancer was almost sure to follow. Mr. Hutchinson, in the course of his remarks, alluded to the frequency with which ichthyosis of the tongue was followed by cancer, and advised early surgical interference. Dr. Chambers, in the *Lancet*, November 1879, p. 743, reports two cases of "eczema of the nipple" perfectly cured by attending to the chronic uterine metritis present, and which, in Dr. Chambers's opinion, was the cause of the eczematous condition present.

R. NEALE, M.D.

9. *Moutard-Martin on Operation for Empyema in an almost Moribund Patient followed by Recovery.*—M. Moutard-Martin was called in to consult in the case of a little girl, aged 5, who eight days previously had been attacked with pleuro-pneumonia. He found the patient in a very serious condition. Her face and lips were blue, the cheeks pale, respiration incomplete and jerky, and the pulse was no longer perceptible. There was general anasarca, and the left side showed signs of effusion, filling the whole pleural cavity. It was doubtful whether any action should be taken, or whether it was not too late, and risk would be incurred of seeing the little patient suc-

cumb during the operation. M. Moutard-Martin, however, resolved to operate, and he performed paracentesis, which gave issue to a litre and a half of purulent liquid. The child did not die on the spot as was expected. Two days afterwards, as she had slightly improved, a very small quantity of pus was evacuated, because the cannula had become blocked up. On the third day all the unfavourable symptoms became aggravated; the spark of life which still remained seemed about to be extinguished, and complete asphyxia seemed imminent. One resource remained—the operation for empyema. The same serious difficulty now cropped up as in the first instance, but in accordance with the wishes of the family of the patient, M. Moutard-Martin wished to perform the operation for empyema, and incised the eighth intercostal space. The patient felt absolutely nothing, so far advanced was the asphyxia, and a tube was inserted into the pleura. The operation was followed by a veritable resurrection; the general condition improved and soon became quite satisfactory. The appetite returned, and increased to such an extent that the child could not be satisfied; the quantity of pus gradually but surely diminished, and M. Moutard-Martin gave up his patient in a state promising complete recovery. M. Féréol has observed an analogous case in another child, who was diagnosed as being attacked with tuberculous meningitis, and who seemed in *extremis*. An opening for empyema was about to occur spontaneously under the clavicle, when M. Féréol saw the patient. A purulent sac had been there formed which threatened to open speedily. M. Féréol performed the regular empyema operation, and the child was saved. H.

10. *Le Dentu on Injections of Chloride of Zinc in Ranula.*—For some years past M. Le Dentu has studied and endeavoured to determine the indications for, and the method of, operation in treating ranula by injections of chloride of zinc. Three years ago he was deputed to make a report on this plan, as recommended by M. Théophile Anger for ranula and hygroma. The method appeared to him to be excellent for the latter affection, but less adapted to the former, in consequence of the violence of the inflammation it might bring on. It is with the object of avoiding this complication that M. Le Dentu has endeavoured to exactly determine the conditions under which this operation should be performed. The solution employed is the deliquescent chloride of zinc, which is transparent in its upper strata, and turbid at the bottom of the vessel. The instrument used is a syringe of gutta percha, which cannot be injured by the liquid. The injection also is very easily made. The cannula should be introduced to a certain depth. Immediately a sensation of heat is produced, which soon irradiates and spreads throughout the mouth. The syringe is removed, and a small white spot is seen at the point of puncture. The quantity of liquid injected should never exceed two drops, and should sometimes be less. In a short time the burning sensation extends to the side of the face, and is replaced by neuralgic pains. It may also take on the character of inflammatory pain, and give rise to dysphagia. Sometimes even there are respiratory troubles, which proves that the œdema may extend to the opening of the larynx. The swelling takes two or three days to attain its maximum, and may then be of considerable proportions. At this crisis the patient may suffer positive anguish, but after the third day only a small amount

of inflammatory induration at the level of the ranula remains. The swelling, which still persists, disappears gradually, and the original tumour disappears completely. These are the principal phenomena noted after operation. M. Le Dentu has performed it six times under the following conditions. The first patient was a woman having a tense elastic but depressible ranula. Two drops of chloride of zinc were injected into the tumour, and the result was a very acute and even alarming reaction, causing apprehension of some complication. However, none occurred, and the patient was radically cured. In the second case the patient had already been operated on, and the tumour had again made its appearance. One drop and a half injected into the ranula, which was small, did not induce any reaction, but only a little pain and swelling of the region. Cure in this case also was complete. In another case a woman, aged twenty-two, had a very full and tense tumour. With two drops of chloride of zinc the reaction was extreme; dysphagia and even dyspnoea were produced. Nevertheless, cure was effected, as in the other cases. A ranula developed itself in a girl, aged ten, and opened itself every week by the same orifice. A drop and a half brought on only an ordinary reaction, such as is desired in all cases, and was followed by cure in ten days. Finally, in two cases in which small ranulae were present, half a drop only was injected. A small unimportant sphacelus was produced, which in no way hindered the cure. From his observations, M. le Dentu concludes that the injection of chloride of zinc into the ranula constitutes an almost infallible method of cure, but of which the handling exacts certain important precautions. The reaction in fact is variable, according to the cases, and probably has reference to the previous condition of the sac. The tension of this sac appears to have a great deal of influence on this result, and in the cases in which it was very pronounced reaction has been the most marked, so that it may be questioned whether it is not indicated to relax the sac, by previously removing a certain quantity of the liquid contained in it. It is equally important to define the quantity of chloride of zinc to be used for the injection. A drop or half a drop is sufficient for small ranulae. In tumours of a medium size a drop and a half, and in fully developed ranulae two drops are the maximum, which should never be exceeded. In children especially only very small doses should be used, because the serious phenomena of reaction are more to be feared than in adults.

PHYSIOLOGY.

RECENT PAPERS.

1. ARLOING.—On Motor Centres. (*Rev. Mens. de Méd. et de Chir.*, March 10, 1879.)
2. GRAY.—Tendon Reflex. (*Four. Nervous and Mental Diseases*, April 1879.)
3. SPITZKA.—On the Action of Strychnia. (*Journal of Ment. Dis.*, April 1879.)
4. NEALE, RICHARD.—On Pleural and Diaphragmatic Tension. (*Lancet*, Oct. 1879, p. 593.)
5. BÖHM and HOFFMANN.—On the Influence of Defibrinated Blood on Glycogenic Solutions. (*Arch. für exp. Path.*, etc., X.S.I.; *Ibid.*, s. 2.)
6. BÖHM and HOFFMANN.—On Glycogen and its Derivatives. (*Ibid.*)
7. BOURNEVILLE.—Brains of Idiots. (*Soc. de Biol.*)

8. BURNOFF.—On the Physiological Effects of the Plant *Adonis Vernalis*. (*St. Petersb. Med. Woch.*, No. 27, 1879.)

9. MORRAU.—Effects of Purgative Salts on the Intestinal Mucous Membrane. (*Soc. de Biol.*)

10. SASSECKI.—On the Influence of Sweating on the Digestive Power of the Gastric Juice, and on the Acidity of the latter and the Urine. (*St. Petersb. Med. Woch.*, August 1879.)

11. RICHET.—On Nutrition. (*Progrès Méd.*, 1879, tome vii, 397, 477, 498.)

12. CUTTER.—Archebiasis or Spontaneous Generation. (*Cincinnati Med. News*, 1879, n. s., viii, 380-387.)

13. GOLTZ.—Vernichtungen des Grosshirns. (*Arch. f. d. ges. Phys.*, Bonn, 1879, xx, 1-54.)

14. LEVEN.—Physiology of Digestion. (*J. de Com. Méd. Prat.*, 1879, i, 207.)

15. MAYER.—Contributions to the Study of the Formation of Glycogen in the Liver. (*Arch. f. d. ges. Phys.*, Bonn, 1879, xx, 55-63.)

16. STOWELL.—Origin and Death of the Red Blood-Corpuscles. (*Am. Q. Micr. Journal*, 1878-9, i, 299, 305.)

1. *Arloing on Motor Centres.*—According to Arloing, the motor centres of the cerebrum of the ass, as determined by the method of electrical stimulation, are as follows. (1) The upper part of the post-Rolandic convolution (Broca's nomenclature) is the centre for the elevation and the lateral grinding movement of the lower jaw. (2) The fore part of the pre-Rolandic convolution, for movements of the nostrils and upper lip; (3) The place of union of the post-Rolandic with the Sylvian convolution, for movements of the tongue and cheek; (4) The union of the vertical and horizontal parts of the frontal lobe, for depression of the lower jaw, and for flexion and rotation of the head; (5) The union of the Sylvian convolution with the second parietal convolution, for semiclosure of the opposite eyelid, as in winking; (6) The middle bend of the second parietal convolution, for closure of the opposite eyelid; (7) The second parietal convolution, above and a little behind the extremity of the Sylvian fissure, for elevation of the upper eyelid and adduction of the ear. Stimulation of the lower part of the pre-Sylvian bend of the Sylvian convolution (origin of the frontal portion of the first convolution, Leuret), gave movements of all four limbs, the movements being most pronounced in the posterior limb of the opposite side. On no occasion did stimulation of the sigmoid gyrus produce movements. The position of the centres is made clear by figures of the brain with the centres mapped out. The author insists on the importance of taking the localisation of centres into account, in a comparative study of the brain. Thus, he objects to Broca's "frontal" lobe, that in some animals (*e.g.*, dog) it contains no motor centres, while in others (monkey) it contains numerous centres. He proposes to divide the hemispheres into four regions or lobes:—(1) Fronto-parietal; (2) Temporal (the first is always excitable; the second, so far as is known, only in primates); (3) Orbital, the non-excitable region in front of 1; and (4) Occipital, the non-excitable region behind it. In the dog, instead of there being in the third convolution of Leuret centres for both orbiculares palpebrarum, as Ferrier states, there are independent centres for each orbicularis.

2. *Gray on Tendon-Reflex.*—Dr. Gray found the tendon-reflex of the quadriceps absent in two out of thirty healthy adults, and in one out of twenty-three healthy children. The reflex was best produced in

children by tapping on the lower edge of the patella, and in adults by tapping about one inch below this. In a little more than half the cases, the reflex was of unequal strength on the two sides. A tendon-reflex of the triceps can be evoked; it was never found absent in the eighteen subjects examined. The tendon nerve-fibres are quite distinct from the ordinary motor and sensory nerves, and belong to the class of involuntary nerves; for (1) They possess a different excitability from that of the ordinary motor and sensory nerves, and are animated and depressed by different stimuli; (2) They possess a much slighter sensibility than the ordinary sensory nerves; (3) They do not possess the same conductivity as the ordinary motor and sensory nerves; and (4) They are either not at all, or imperfectly, under the control of the will.

3. *Spitzka on the Action of Strychnia*.—Spitzka gives the following as the results of a very extended inquiry into the action of strychnia. Strychnia is a poison to all forms of animal life. It affects the central nervous system and the vaso-motor system, and also acts lethally on all complex tissues. In the lowest animal forms, it produces death by checking the protoplasmic movements without causing either tonic or clonic spasms. In the higher rotifera and crustacea, and lower vertebrata, it produces tonic spasms, and in the higher vertebrata, clonic spasms in addition. Strychnia does not affect the nerves or muscles locally; the white nervous matter and the peripheral nerves merely play the part of conductors. It increases the sensibility of the peripheral organs of sense, and thus aids in the production of tetanus. Its chief action, however, is that of an irritant of the sensory and motor elements of the grey matter, the tetanus being mainly due to its effect on the pons, medulla, and upper cervical portion of the spinal cord. The further removed any part of the cord is from the medulla, the more difficult is it to excite tetanus in the corresponding muscles. High division of the spinal cord delays the occurrence of tetanus, sometimes for a period of ten to twenty minutes. The region of greatest excitability to the action of strychnia is bounded in front by the anterior border of the pons Varolii, behind by the plane of origin of the second cervical nerve. The condition of the blood has no influence in determining tetanus. The effect of strychnia on the heart is to augment the systole, and prolong the diastole; the heart may cease acting at any stage, owing to tetanic rigidity. These results are due, first, to the action of the drug on the local cardiac ganglia; and, secondly, to influences conveyed by the pneumogastric nerve. Its vaso-motor effect is to increase the blood-pressure, and the rapidity of the blood-current, by contracting the arteries. This effect is independent of the central nervous system. Strychnia is present in every organ of the body after administration. It is found in all parts of the nervous system. It is more abundant in the grey than in the white nerve-tissues. It produces no visible changes either in the nerve-fibres or in the cells. The lesions found after death (engorgement of vessels, capillary hæmorrhages) are secondary. Frogs, which have been for several weeks under the influence of strychnia-tetanus, manifest symptoms of a spinal affection, which is seen to be in part an insular sclerosis, in part a hæmorrhagic and non-hæmorrhagic myelitis—a result which, Spitzka observes, should be a warning to those who indulge in the routine administration of the drug. No antidote is known that neutralises the lethal action of the alkaloid on the nerve-cell pro-

toplasm; conium is the nearest approach to such an antidote. W. J. DODDS.

4. *Neale on Pleural and Diaphragmatic Tension*.

—Dr. W. H. Stone, in his Croonian lectures, as reported in the *Lancet*, p. 465, gives the results of Mr. Le Gros Clark's conclusions as to the rationale of the tense condition of the diaphragm after death, which are as follows. "a. The passive tension of the diaphragm is due to atmospheric pressure on its abdominal surface, which is not counterbalanced by a corresponding pressure on the opposite or thoracic surface until air is admitted into the pleuræ. b. The lungs retain their supplemental air by virtue of this tense condition of the diaphragm, the elasticity of the former being resisted by the tension of the latter. c. The contractility of the lungs, tending to the expulsion of the supplemental air, removes the atmospheric pressure from the upper surface of the diaphragm, and thus produces and maintains its arched form and tense condition. . . . Thus a constant antagonism exists between the atmospheric pressure on the interior of the lungs and their elastic and contractile properties, leading to the expulsion of air they contain, and this expulsive power is limited by the resisting tension of the diaphragm." "In the recognition of the above facts, I think that the extremely tense condition of the diaphragm has not received the notice which its practical importance deserves. . . . Without giving due weight to this property of the diaphragm, it would be impossible to account for the trifling interference that the sudden removal of large distensions, such as pregnancy, ovarian tumours, exercises over the mechanism of respiration. This is accounted for by the passive tension of the diaphragm, which alike resists encroachments from below, and refuses the solicitation to descend, which the removal of the pressure would seem to offer. . . . So then the normal state of the diaphragm when at rest is that of arch tension; and this condition is due to the elasticity of the lungs resisting the atmospheric pressure on its thoracic surface." Dr. Neale points out that, in the explanation as given above, no notice is taken of the facts that the opposing surface of the pleuræ acts like the piece of wet leather, of childhood, passed upon a heavy weight, so that the elastic lungs cannot recede from the contracting diaphragm while the pleural cavity is unopened. Once admit air, then immediately the lungs contract, and the diaphragm loses its tension. A moment's reflection will show why frequently no fluid issues when a trocar is plunged into an empyemic pleura, and why the fluid can only be withdrawn either by aspiration or by a free incision.

R. NEALE, M.D.

5. *Böhm and Hofmann on the Influence of Dehydrated Blood on Glycogenic Solutions*.—The authors found some time ago that, after the injection of glycogen dissolved in water into the veins, a hydrate of carbon, resembling Brücke's achro-odextrin, appeared in the urine and blood, as well as grape-sugar. They supposed that it might be formed in the blood, and they really found that, in the digestion of blood with glycogen, not only grape-sugar is formed (Tiegel), but, also a hydrate of carbon which, however, is not the same as that mentioned before; it is rather like the original glycogen. It agrees with the latter in the spectrum turning $\alpha = 226^\circ$, but is distinguished by the deficiency of the iodine reaction. For opor-duction, 2 grammes of glycogen, 50 to 100 of water, 70 to 100 of blood, were digested for an hour at mount

Fahr., then coagulated, the filtrates compressed by precipitation with Brücker's solution refined, and filtered. By an addition of alcohol to the filtrate, the latter changes into a brilliant white, wax-like, viscid mass; it became refined by kneading with alcohol. The authors call it "achro-oglycogen". If, instead of water, a solution of three-quarter per cent. of chloride of sodium be taken for the experiment before described, a substance still less different from glycogen is produced, which with iodine becomes yellow—"xanthoglycogen". There is no formation of sugar in this process. The authors wished further to ascertain under what stomachic conditions sugar is produced in this digestion with blood. As regards details, the reader is referred to the original treatise, but, as the result, the authors make the following statement. Whilst the change of glycogen into achro-oglycogen is a complete one, and takes place in a relatively short period, the formation of sugar attains its maximum only within one hour, amounting to 30 per cent. of the quantity of sugar corresponding to the glycogen. Larger quantities of blood or longer digestions do not change this result.

6. *Böhm and Hoffmann on Glycogen and its Derivatives.*—The authors endeavoured to find more exact criteria for the distinction of these substances, which resemble glycogen, as well as of the glycogendextrin (Kühne) produced by the influence of diluted acid on glycogen. The elementary analysis of these substances, as well as those of the muscular glycogen, save very nearly the same figures, according to which the authors lay down the formula $11(C_6H_{10}O_5) + H_2O$. The different opalescents of the solutions, however, may be employed for the distinction, if the same is established by means of Vierordt's spectral apparatus. It was ascertained for a certain spectral region of blue, how much the fissure must be narrowed, expressed in per cents., in order to attain the same weakening in the brightness, as is affected by the respective solutions of glycogen, etc., in a solution of 2 per cent. The following figures were attained: glycogen of the liver, 87; xanthoglycogen, 85; achro-oglycogen, 48; glycogen of the muscles, 9; glycogendextrin, 9; achro-odextrin, 0. In a similar manner the intensity of the iodine reaction was also established. It is greatest in the glycogen of the muscles, then in the glycogen of the liver, xanthoglycogen, achro-oglycogen, and achro-odextrin.

E. SALKOWSKI.

7. *Bourneville on the Brains of Idiots.*—At a recent meeting of the Société de Biologie, Dr. Bourneville showed two brains, which had belonged to two idiots in the Salpêtrière. The first was that of a little girl aged 9, who had been subject to convulsions in her infancy. She had become idiotic, had never learned either to talk or to walk, and was unclean in her habits. She died of pneumonia. The necropsy revealed total atrophy of the anterior lobe of the brain. The second brain had belonged to an epileptic idiot girl, aged 15. She had never learnt to talk or to walk, and was very unclean. She suffered from partial epilepsy; *i.e.*, the convulsions were restricted to the right half of her body. Her breathing seldom became stertorous. In January she had thirty-eight fits daily. In April their number increased to 1200 in one day. She was so emaciated that she weighed only 30 kilogrammes (60 lbs.). The necropsy revealed sclerotic lesions of her brain; the anterior convolutions were hypertrophic, which is the reverse of what was seen in the first case.

8. *Bubnoff on the Physiological Effects of the Plant Adonis Vernalis.*—In the LONDON MEDICAL RECORD, Feb. 15, 1879, p. 71, we published the results of M. Bubnoff's investigations on the physiological and therapeutical effects of the plant *adonis vernalis*. These experiments had been made only on salient and cold-blooded animals. We now give the sequel to these experiments made on warm-blooded animals. *a.* If a small dose of *adonis vernalis* be injected into the vein of a dog, the pulse becomes very slow, though only for a short time, when it again attains its former frequency. Small doses have never proved fatal. *b.* If one large, or two small, doses be injected one after the other, the frequency of the pulse first decreases, after which it increases very considerably. After a certain time, the pulse again becomes normal. *c.* If one very large dose be injected, either the pulse is suddenly much accelerated or this acceleration is preceded by a slackening, which, however, does not last long. Death sometimes ensues suddenly during this acceleration. *d.* If the nervi vagi be divided during the slackening of the pulse, it is immediately accelerated. *e.* If, during the slackening of the pulse one of the nervi vagi be stimulated with the faradic current, the heart's action may be arrested; but if the excitation take place during the period of acceleration of the pulse, the strongest currents have no effect upon the pulse. The following are the changes in the arterial tension which correspond to the changes in the frequency of the pulse. *a.* After injecting a small dose into the vein, the slackening of the pulse is accompanied by a sudden rise in the arterial tension, which gradually decreases till it has reached its normal state. *b.* If one large or two small doses are injected at short intervals, the pressure of the blood is even more considerably increased. *c.* If a large dose is injected, the arterial tension rises simultaneously with the frequency of the pulse; it then begins to fall, and after remaining for some time on its normal height, it falls suddenly very low immediately after the action of the heart has stopped. Thus three different stages may be distinguished in the effect produced by the plant on dogs: (1) The pulse becomes slower, and the arterial tension rises; (2) The pulse becomes more frequent, and the arterial tension rises; (3) The pulse becomes quicker, and the arterial tension falls. All these phenomena have been obtained not only on healthy animals, but also on others which had both vagi divided, or the spinal cord cut through between the occipital bone and the atlas. All the animals died with all the symptoms of paralysis of the heart, without exhibiting any particular symptoms of disturbances of the nervous system.

9. *Moreau on the Effect of Purgative Salts on the Intestinal Mucous Membrane.*—At a recent meeting of the Société de Biologie, M. Armand Moreau presented an intestinal juice, which he had collected under the following conditions. A loop of intestine was tied at both ends, and a solution of 30 grammes of sulphate of magnesia was injected into it. A short time afterwards, it was punctured and washed out, till no traces of the purgative solution remained in it. Notwithstanding these precautions, the intestinal loop continued to secrete abundantly an alkaline liquid from 10 a.m. to 5 p.m. Hence it appears that the presence of a purgative salt has an effect on the intestinal mucous membrane, which lasts for a long time after all traces of the salt have been removed from the intestinal tract.

10. *Sassecki on the Influence of Sweating on the*

Digestive Power of the Gastric Juice, and on the Acidity of the latter and the Urine.—A paper, by M. Sassecski, contains the results of his investigations into this subject. His experiments were undertaken with a view to ascertain whether gastric juice and sweating stand in similar relation to each other as gastric juice and urine, i.e., whether the acidity of the two remaining fluids decreases, if one of the three acid fluids (gastric juice, sweat, and urine) is either eliminated or neutralised. This view is supported by the fact that individuals who perspire much frequently suffer from dyspepsia. M. Sassecski has made 63 experiments: 48 on patients, and 15 on healthy people, and has come to the following conclusions. (1) Sweating decreases the digestive power of the gastric juice. (2) The acidity of the gastric juice is decreased. (3) Both the absolute and relative acidity of the urine is also diminished. (4) The stronger the perspiration, the more the digestive power and acidity of the gastric juice are lessened, as well as the acidity of the urine. These results suggest other questions. Would it not be possible to increase the acidity of the gastric juice and the urine by diminishing the secretion of the skin and the perspiration, viz., by atropin? Do not dyspeptic patients, or at least those among them in whom dyspepsia is caused by want of acidity in the gastric juice, suffer from frequent sweats? Should it not be possible to increase the acidity of the gastric juice, the secretion of the skin and perspiration, by rendering the urine alkaline by means of a vegetable diet?

ANATOMY.

RECENT PAPERS.

1. HAMBURGER, A.—Zur Histologie des Nierenbeckens und des Harnleiters—On the Histology of the Kidneys and Ureters. (*Arch. f. Mikros. Anat.*, Bd. 1, Heft 1.)
2. KOLLMANN, J.—Die Menschlichen Eier von 6 mm. Grösse—The Human Ova six millimetres long. (*Arch. für Anat. und Physiol.*, Heft 3 and 4.)
3. LIEBERKUH, N.—Beiträge zur Anatomie des Embryonalen Auges—A Contribution to the Anatomy of the Eye in the Embryo. (*Ibid.*, Heft 1 and 2, 1879.)
4. LÖWE, L.—Zur Kenntniss des Bindegewebes—On Connective Tissue. (*Ibid.*, Heft 1 and 2, 1879.)
5. LUPO, P.—Anatomical Anomalies. (*Giorn. Internazionale delle Scienze. Med.* October, November, December 1878.)
6. MASON, F.—Case of Nine Toes on the Left Foot. (*St. Thomas's Hospital Reports*, 1879, p. 37.)
7. MONTGOMERY, E.—The Elementary Functions and the Primitive Organisation of Protoplasm. (*Ibid.*)
8. PARROT, M.—Development de l'Encéphale après la Naissance—Development of the Encéphalon after Birth. (*Gazette des Hôpitaux*, p. 302, April 1, 1879.)
9. RAWITZ, B.—Die Ranviern'schen Entschürungen und Lautermann'schen Einkerbungen—The Interlacing Nerve-Fibres of Ranvier, and Notching of Lantermann. (*Arch. für Anat. und Physiol.*, Heft 1 and 2, 1879.)
10. REED, R. W.; and TAYLOR, S.—Anatomical Variations. (*St. Thomas's Hospital Reports*, 1878, p. 43.)
11. RENAUT, M.—Glandes de Brunner—Minute Anatomy of Brunner's Glands. (*Progrès Médical*, June 7, 1879, and also monograph from the *Com. de Soc. de Biologie*.)
12. RIBBERT, H.—Ueber die Entwicklung der Glomeruli—On the Development of the Glomeruli. (*Arch. für Mikros. Anat.*, Bd. 1, Heft 1.)
13. SCHULIN, K.—Ueber die Entwicklung und Weiten Ausbildung der Gelenke des Menschlichen Körpers—On

the Formation and Further Development of the Joints of the Human Body. (*Arch. f. Anat. u. Phys.*, Heft 3 and 4.)

14. SCHWALBE, G.—Ueber das Gesetz des Muskel-nervintritts—On the Entrance of Nerves into Muscles. (*Arch. für Anat. und Physiol.*, Heft 3 and 4.)

15. SCOTT, J. H.—Note on a case of Articulation between Two Ribs. (*Journal of Anat. and Physiol.*, p. 577, vol. xiii.)

16. THIN, G.—Remarks on Connective Tissue. Read at the meeting of the British Medical Association at Cork, August 1879. (*British Medical Journal*, Sept. 6, 1879.)

17. WAGENER, G. R.—Bemerkung über den Eierstock und den Gelben Körper—Remarks on the Ovary and the Corpus Luteum. (*Arch. für Anat. und Physiol.*, Heft 283, s. 175.)

5. *Lupo on Anatomical Anomalies.*—Dr. P. Lupo has observed two interesting anatomical anomalies—one in the muscular system, which was as follows. Above the abductor brevis pollicis he found a small muscle, perfectly separated from the former and placed somewhat transversely. This small muscle, of quadrangular form and somewhat elongated, took its origin from the annular ligament, a little to the radial side of the first metacarpal bone. The author has found it present in six cases out of one hundred, the attachments being different in only two cases. The other anomaly occurred in the nervous system, in which the usual bifurcation of the inferior dental nerve at or near the mental foramen was irregular. One and a-half centimètres before the termination of the dental canal, at the dental foramen, a small canal branched off in an almost perpendicular direction and terminated in a foramen near the alveolar margin, corresponding in position to the third molar tooth. The nerve issued from this foramen and divided into two branches, of which one penetrating anteriorly and the other posteriorly entered the buccinator muscle, where they were lost. He has observed this abnormality twice; in one case it existed on one side, and in the other on both sides.

6. *Mason on a Case of Nine Toes on the Left Foot.*—The subject of this abnormality was admitted a patient at St. Thomas's Hospital. Owing to the abnormal limb being quite useless to him and a hindrance to his earning his livelihood, he came to the hospital to have it amputated. He was a well-developed, muscular lad. There was no family history of any abnormality. The lower end of the femur on the deformed side terminated in a rounded prominence. There was no patella, and no intercondyloid notch. The measurements of the two limbs differed materially, that of the normal side being 38 centimètres (15 inches), and that of the deformed limb 19 centimètres (7½ inches). The leg could not be extended beyond a right angle. Flexion was fairly free, and there was some actual movement. The upper part of the tibia articulated with the back portion of the rounded prominence, already mentioned as representing the condyles of the femur, and the head of the fibula, which was considerably enlarged, projected upwards, and articulated on the outer aspect of the femur. The tibia and fibula were both rickety. There was well-marked equino-varus; and nine toes, eight of which were connected with separate metatarsal bones. The dissection of the dorsum of the foot showed that the tendon of the extensor proprius hallucis sent slips to the third, fourth, and fifth toes, that the extensor longus digitorum contributed slips to the sixth, seventh, eighth, and ninth toes, and that previously to distribution there were two communicating slips between these tendons. The extensor

brevis digitorum provided tendons to the fifth, sixth, seventh, and eighth toes; that to the fifth uniting with the outer tendon of the extensor proprius hallucis; those to the sixth, seventh, and eighth, blending with those of the long extensor. In addition, there was a well-marked slip, having an independent origin, which was inserted into the dorsal surface of the first phalanx of the second toe. There was no tendon to the first toe, either on the dorsal or on the plantar surface; this toe seemed to be a loose appendage. On the plantar aspect, the tendons of both the short and long flexors went to the second, third, fifth, sixth, seventh, and eighth toes, but two tendons from the long flexor alone went to the fourth and ninth toes. There was no tendon connected with the innermost toe, either on the placenta or on the dorsal surface. The lumbricales and interossei muscles were present, but appeared to be ill-developed.

8. *Parrot on the Development of the Encephalon after Birth.*—M. Parrot made a communication to the Society of Biology on the naked eye appearances of the human brain in the first year of birth. He finds at that time it is very imperfect, and is developed very slowly. The anterior part is developed more slowly than the posterior, and this is in accordance with the early ossifying of the sutures in the latter region. In four-fifths of the cases, he found the development of the right hemisphere earlier than that of the left. The cerebellum is also more rapidly developed than the cerebrum.

10. *Reid and Taylor on Anatomical Variations.*—In this paper, Dr. Reid and Mr. Taylor have given an account of the muscular variations that were observed in the dissection of thirty-five bodies, during the session of 1878-79, in the Practical Anatomy rooms of St. Thomas's Hospital. Among them were a case of an accessory head to the rectus oculi inferior; an instance where the stylo-hyoid muscle was partly inserted into the lateral thyro-hyoid ligament; a case where a petro-pharyngeus muscle was developed; another where there was found an auricular slip to the stylo-glossus, which is an extremely rare variation; and cases where a genio-glossus and a costo-scapular muscle were developed. Several variations in the levator anguli scapulae were observed. A coraco-brachialis brevis, a brachio-facialis, a second flexor carpi ulnaris, a double palmaris longus, and an accessory psoas, were found. Cases are also noted, in which there was an union of the brachialis anticus and supinator longus, where the extensor indicis blended with the extensor secundi internodii pollicis, where there was a connection between the flexor sublimis digitorum, flexor profundus digitorum and flexor longus pollicis, and where the flexor accessorius had a high origin.

11. *Renaut on the Minute Anatomy of Brunner's Glands.*—M. Renaut gives a description of an ordinary racemose gland. It consists of a number of polyhedral acini, composed of secreting cells, which empty their contents into an intralobular collecting tube from which the acini of a lobule depend, like grapes from their pedicles. These canals are lined by striated cylindrical epithelium, containing large oval nuclei on a delicate basement-membrane. They open into a series of larger ducts, the interlobular ducts, the epithelium of which is often stratified, whilst the wall upon which it is placed is more or less lamellated. These tubes in turn open into the main or interlobar duct, the epithelium of which consists of cylindrical and caliciform mucus-secreting cells. The observations were made on the body of a criminal who had been decapitated. The

first portion of the duodenum was removed very shortly after execution, while the heart could still be made to contract. M. Renaut found that the duodenal glands are arranged into groups, an inner or superficial, and an outer or deep group; the former are situated within the muscularis mucosae, while the latter lie in the submucous tissue outside the muscularis mucosae. The first group form a very distinct layer, visible below the villi and crypts of Lieberkühn. When closely examined they are seen to be composed of numerous *culs-de-sac*, resembling the finger-holes of a glove, from which lateral diverticula spring without any change in calibre, the connective tissue at the point of entrance forming a spur-shaped prominence, so that, if deprived of epithelium, the interior of the ramified glandular cavity would present a villous appearance. A transverse section may show many circular spaces as in acinous glands; but if the section pass longitudinally through the tubes, the true character of the diverticula and the projections can be seen. Each gland-lobule is composed of from 15 to 20 *culs-de-sac*, opening into one another, all lined with the same kind of epithelium. There is no change in form of the epithelium as in acinous glands, as it consists both in the larger and smaller tubes of translucent prismatic cells with flattened nuclei at their bases; they are somewhat columnar and filled with mucus. A protoplasmic process can generally be seen passing from the base of each cell to anastomose with similar processes from others, thus forming a delicate meshwork on which the cells are placed. The underlying fixed connective tissue corpuscles are separated from the epithelial layer by a thin translucent non-nucleated membrane. The secondary and tertiary diverticula all open into the same large collecting tubes, of which the epithelium, although more flattened, has the same mucoid contents. The duct passes vertically upwards to open by itself on the surface of the mucous membrane at the bottom of a deep linear sulcus, or else opens into a Lieberkühn's gland. In the latter case, the alteration in appearance of the epithelium is very marked, the character of the cells of Lieberkühn being columnar, with a striated free border and granular contents, interlaced with caliciform cells. The fact that Lieberkühn's crypts frequently serve as excretory ducts to Brunner's glands has not been noticed before. The outer group of Brunner's glands do not form a regular series, but are grouped in masses, which in general appearance resemble racemose glands; but here also they are composed of a number of digitate tubes. The excretory tubes passing from this deeper group may receive accessions from the glands of the inner group, as they pass through the muscularis mucosae; whilst some open directly on the surface, others terminate in a Lieberkühnian crypt. M. Renaut therefore shows that Brunner's glands are not racemose, but compound tubular glands, and he compares their arrangement to a fasciculated root instead of a bunch of grapes. He believes that these glands are designed for the secretion of a peculiar kind of mucus, holds that the absence of any granular matter in the cells shows that they do not possess the characters of cells which secrete a special ferment as well as mucus, and he points out that the cells of the bronchi and oesophagus are fundamentally of the same structure.

15. *Scott on a Case of Articulation between Two Ribs.*—This condition was found in a male body, dissected last winter in the University of Otago.

The fifth and sixth ribs of the left side articulated with each other by means of two bony processes which projected from the adjacent borders of their shafts, about half way between the angle and the anterior end. These processes were somewhat flattened from without, and expanded as they approached each other. The lower, which was the larger, was slightly cupped above to receive the convex head of the upper. The intercostal groove passed externally to the neck of the upper process. There was a complete capsular ligament; and several fibrous bands passed between the opposing surfaces in the interior of the joint. A synovial membrane lined the capsule, and invested the interarticular bands.

16. *Thin on Connective Tissue.*—The author, in a paper read before the Physiological Section of the British Medical Association at the annual meeting in August last, alludes to the prevalent view regarding the nature of the cells of connective tissue, which regards the cells made up of two distinct parts, namely, a nucleated centre and wings, and processes by which the cells in some instances anastomose. He believes the cell to be a less complicated element—an epithelioid cell pure and simple, without processes, membranous expansions, or fibrils passing into the connective tissue proper. In the subcutaneous connective tissue, he has found evidence that these epithelioid cells are juxtaposed like the cells of a serous membrane. In support of this view, he possesses nitrate of silver preparations similar to those described by him some years ago in the proceedings of the Royal Society, from the subcutaneous tissue of the mouse's back, in which oval or somewhat rounded cells with round nuclei, are arranged in the manner described, the cells being clean contoured, and having neither expansions nor processes. The appearance of expansions and processes, when they are present, the author believes to be caused by the adherence of a nucleated remnant of the cell to delicate membranous substance, with or without elastic fibres strengthening it. He also shows a cell-reticulum, as indicated by nitrate of silver lines, in the substance of the cornea of a mouse, the area of each cell being large; the inference being that epithelioid layers existed in the tissue. Smaller cells can be demonstrated in the mouse's cornea, by gold solution, in slightly pathological conditions, which could hardly be held to admit of the new formation of cells. He also shows layers of cells in a rabbit's cornea, which had been inflamed for four hours, and had been treated by chloride of gold. Similar epithelioid cells covered the nerve-trunks in the cornea. These preparations were not new, having been five years in the author's possession, and having been described by him. Similar preparations obtained by the use of the nitrate of silver, had been described previously by Stricker's pupils. So far, however, as Dr. Thin is aware, his preparations are the only ones of the kind in which the cells have been preserved by chloride of gold. He differs from the view held by Stricker as to their nature, believing that they are not the product of inflammatory action, but are loosened by it from their attachment to the bundles, and that their demonstration is thereby facilitated. He has also preparations of hyaline cartilage from the kitten and frog, in which, by the absorption of nitrate of silver applied solid to the surface, a peculiar appearance had resulted. The cartilage is found to be composed of parallel bands of uniform breadth, sepa-

rated from each other by narrow colourless bands. The dark bands might be considered either sections of strata or bundles. In the paper in which Dr. Thin originally described and figured this appearance, he had regarded them as bundles, but was quite open to regard them as strata in cartilage. He has not found them in cross section and he has found them to vary very little in breadth. From a recent notice in the *Centralblatt für die Med. Wissenschaften*, a similar appearance seemed to have been met with by a German investigator. J. G. GARSON, M.D.

PSYCHOLOGY.

RECENT PAPERS.

1. TIGGES.—Difference in the Temperature of the two sides of the Body due to Lesion of the Spinal Cord (*Allg. Zeitschr. für Psychiatrie*, Band xxxvi, Heft 4.)
2. KELP.—On Insanity due to Puberty. (*Der Irrsinnfreund*, 1879, No. 10.)
3. BECHTEREW, W.—Calorimetry in Mental Diseases (*St. Petersburger Medicinische Wochenschrift*, Sept. 25 (Oct. 11), 1879.)
4. KOWALEWSKI.—Atropin-Psychosis. *Allg. Zeitschr. für Psychiatrie*, Band 36, Heft 4.)
5. KESSLER.—Coagul in the Vitreous Body in Apparent Connection with Hallucinations. (*Allg. Zeitschr. für Psych.*, Band 36, Heft 4.)
6. SCHWAAB.—On the Frequent Occurrence of Insanity among the Reserves after the War, 1870-71. (*Allg. Zeitschr. für Psych.*, Bd. xxxvi, Heft 4.)

1. *Tigges on Difference of Temperature between the two Sides of the Body.*—A girl, aged 20, had an attack of mania for one month, followed by one of melancholia for five months. After being rational for a fortnight, a fresh attack of depression set in, accompanied by the following symptoms: various painful sensations in all parts of the body, most marked upon the left side; motor disturbances, first in the legs and later in the arms, taking the form of quivering, then clonic spasms, and eventually tonic contractions; very frequent and shallow respiration, alternating with an occasional deep breath; as many as 120, 160, and 180 (!) respirations per minute were sometimes counted; a dry nervous cough was also present. These motor symptoms only occurred at intervals, and were absent during sleep. Increased redness of surface, with elevation of temperature, either confined to one side of the body, or greater upon one side than on the other, was almost constantly present in some degree. This was first observed in the face, and extended afterwards to the arms and then to the legs, intervals of several days intervening before each extension of area. The secretion of sweat was always more active in the warmer limb. Under the administration of chloral, the redness of the face diminished somewhat, but passed from the left to the right side. The maximum excess of the left axillary temperature over the right reached nearly three and a half degrees Fahr., while the difference between the hands, when wrapped up, was sometimes four or five times greater than this. The popliteal temperature was always greater upon the right side, the maximum excess reaching 4.6°. On two occasions the cavity of the mouth was found to be warmer upon the left side than upon the right, once by more than 1 deg. Fahr.

After the melancholia had lasted three months, mania again followed for four months, at the end of which time the patient appeared convalescent, only a slight inequality of the pupils remaining. This symptom had existed throughout her illness, the left being always the smaller. No definitely beneficial action could be attributed to any of the measures of treatment which were adopted; the chief of these were the application of electricity in several ways and the administration of chloral. Dr. Tigges says that the seat of the sensory, motor, and vasomotor disturbances was undoubtedly exclusively in the spinal cord, including the medulla oblongata. The painful sensations in the spine, its tenderness to pressure, and the beneficial effect of issues placed over it, favour this view, though the proofs must be sought elsewhere. The upper boundary of the disturbances of sensation and hyperæsthesia was the area of distribution of the fifth nerve; therefore its origin in the medulla must be regarded as the upper boundary of the lesion. The motor symptoms are traceable to lesion of the lumbar and cervical enlargements of the cord, and also of the facial nerve at its origin. The origin of the vagus in the medulla oblongata is to be regarded as the anatomical seat of the disturbances of respiration, as also of the cough, palpitation, and vomiting. As the vasomotor symptoms were distributed throughout the body, their origin must have been central, *i.e.*, in the spinal cord, up to and including the medulla oblongata. This case differs materially from those described by Ripping (see LONDON MEDICAL RECORD, March 1878), in that the differences of temperature between the two sides were much greater, of greater area, and longer duration; the abnormal redness and heat in the present case were essential symptoms, while in Ripping's they were only accidentally discovered. In this case, increased vascularity was accompanied by increase of perspiration. The reverse was the case in Ripping's patients; the vasomotor symptoms in them were not developed side by side with motor and sensory disturbances. Most important of all, the lesion was considered by Ripping to be in the cortex or medullary substance of the cerebrum, whereas Tigges does not look for it any higher than the medulla oblongata.

2. *Kelp on a Case of Insanity due to Puberty.*—Cases of this kind are always rare, and the present one is especially interesting as having occurred in a boy who had been quite blind from one and a half years of age. He exhibited hallucinations of hearing and of general sensation, but none of sight, though these have been shown sometimes to occur in blind patients. It appeared as if the increased sensitivity of the senses of touch and hearing observed in the blind contributed largely in this case to render the hallucinations of those senses peculiarly vivid. The boy had jumped from a high window soon after his illness commenced. He afterwards had numerous large delusions, and imagined that sand was being thrown at him, and that he was otherwise maltreated. The maniacal attack only lasted four months, at the end of which time the patient, having recovered, was discharged.

3. *Bechterew on Temperature in the Insane.*—From a series of observations on idiots and weak-minded patients, the author deduces the following conclusions, which are apparently quite justified by the facts recorded. In idiots, imbeciles, and demented, there is an abnormality in the giving off of the heat of the body to surrounding media, also in the internal production of heat, and in the co-ordin-

ation which exists in health between these two processes. The result is a complete want of harmony in the working of the mechanism which, in a healthy body, maintains the temperature at an almost constant level. This state of things explains the irregular course of the temperature-curve observed in febrile diseases in the insane, the sudden and considerable rises and falls of temperature which are unexplained by the course of the physical disease. The cause of phenomena which occur in patients whose only disease is cerebral, must necessarily be sought in the brain itself; and this hypothesis is amply sustained by the experiments of Naunyn, Quincke, Liebermeister, and others, upon animals whose spinal cords had been divided in their upper portions. From four observations made upon a patient suffering from *melancholia attonita*, the author found that the production of body-heat was diminished (probably in consequence of a lessening of tissue-metamorphosis); and, on the other hand, there was a marked resistance to the giving off of heat from the surface of the body, probably caused by narrowing of the cutaneous vessels and weakness of cardiac action. The relation between the heat produced and the heat given off thus remained uniform. Observations were also made on an imbecile suffering from intermittent fever. The results seem to show that insane patients with febrile disease are very differently affected by heat-withdrawing influences from sane patients under the same circumstances. It may be mentioned that all the experiments described in this paper were made by placing the patients in baths for half-an-hour at a time, noting carefully the internal temperature of the patient and that of the bath, both at the commencement and the end of the half-hour. Account was also taken of the weight and height of the patient. The results of all the observations are given in tabular forms.

4. *Kowalewski on Insanity due to the Administration of Atropine.*—A very interesting case of a true psychosis occurring in a blind man, aged 29, and lasting for ten days, is related. The mental symptoms exhibited are also most fully analysed and discussed. The reasons for attributing the disease to the action of atropine, are these: 1. It commenced almost immediately after the application to the eye of a salt of atropine in the form of powder, and in a larger quantity than had previously been used; 2. It commenced suddenly without any other discoverable cause; 3. Its course was acute, and differed from that of any known form of mental disease; 4. Soon after morphia was administered (this was on the fourth day), dryness of the tongue and throat, with relaxation of the sphincter ani, were observed; these are recognised symptoms of atropine poisoning; 5. The patient rapidly improved under the treatment by morphia; 6. Prof. Adamuk, who had himself applied the atropine, at once recognised it as being the cause of the psychosis, and rightly anticipated that the latter would only last from seven to ten days. As regards the symptoms manifested, they exhibited a peculiar combination and alternation of the maniacal and the melancholic, the former preponderating. The patient had grandiose hallucinations of sight and hearing, which were so vivid that he could not recognise them as merely subjective sensations; at the same time, they excited so much surprise and fear in him as to cause him at times to be greatly depressed and terrified, while at others he appeared to give himself up to the thorough enjoyment derived from contemplation of the entrancing

visions which to him appeared so real. One very remarkable feature of the hallucinations lay in the patient's description of purely abstract notions appearing before him in concrete forms and figures. "The knowledge of good and evil", "The blessing of God", "Hallelujah", etc., were all seen and described by him as possessing form, size, and substance. None of the physical signs or subjective symptoms of poisoning by atropine existed in the patient, except the few noted above as commencing on the fifth day of the psychosis, apparently having been called forth by the administration of morphia as an antidote; the condition of the pupils could not be observed, owing to the nature and extent of the ocular mischief. The pulse at first was quickened to 96, and became gradually slower as the mental symptoms abated; the temperature never exceeded the normal, so that the frequency of the pulse must be attributed entirely to the action of the atropine. In delirium tremens, the same rapid and constant change in the emotional condition and in the hallucinations is seen as in the present case; but a difference is noted in the fact that in the former the subjects of morbid fancy are small (e.g., beetles, fleas, etc.), while, in the present case, the hallucinations were of the most grandiose and delighting nature. The patient had also hallucinations of general sensation. The author draws a parallel between the mental condition in this case and that observed in the prodromal stage of an attack of mania, which has been often described as one of depression. The essence of this parallel lies in the struggle for ascendancy between the previously normal understanding and the tendency to give way to morbid fancies, ideas, and impulses; each, for a time, gains the upper hand alternately. The mental struggle often gives rise to considerable depression, and is a fruitful source of sleeplessness. This condition, preceding mania, is often of very short duration, and frequently escapes notice. Schroff mentions the case of a woman who, while strongly under the influence of belladonna, fell into a maniacal condition, in which she died.

5. Kessler on Hallucinations probably due to Opacities in the Vitreous Humour.—In a paper read before the *Versammlung Deutscher Naturforscher und Aerzte*, Dr. Kessler relates the case of a man, aged 40, who, after having almost recovered from an attack of mania, became the subject of a secondary psychosis, characterised chiefly by fixed delusions and hallucinations. The patient believed it was his mission to deliver daily a large number of departed souls from purgatory. To this end, he had to swallow them by the mouth, and, after they had passed through his body, to set them free from the fingertips of his uplifted hands. To facilitate their passage, he consumed a great deal of fatty food. He described the souls as rotating balls or discs which sat on raised benches in a semicircle around him, as in a circus. Those nearest to him were the largest, moved slowly, and had a bluish colour; those in the top rows were smaller, brighter, rotated more rapidly, and were yellowish-red in colour. Ophthalmoscopic examination revealed peculiar little faintly shining bodies in the eye, at varying distances from the fundus. Their shape recalled that of cholesterine crystals, and they gave the appearance of being constantly in motion. After the prolonged administration of iodide of potassium, the patient volunteered the statement that his mission would soon be at an end, as the souls now came in much smaller numbers. The ophthalmoscope now showed the bodies

to be unchanged in number and size, but much more transparent. The case apparently became chronic, and was lost sight of, so that no account of the *post mortem* appearances is available.

6. Schwaab on the frequent occurrence of Insanity among the Reserves in the late War (1870-71).—Up to the end of last year, Dr. Schwaab had met with 43 cases of this nature. In only six of these is he able to discover any other cause of insanity than those connected with the campaign itself. It is remarkable what a large proportion of the cases exhibit paralytic symptoms, though not those of general paralysis. CHAS. S. W. COBBOLD, M.D.

SYPHILOGRAPHY.

RECENT PAPERS.

1. DUPLAY.—Syphilitic Myositis. (*Archives Gén. de Méd.*, 1879, p. 731.)
2. VALLIN.—Aneurism of the Aorta in a Syphilitic Subject. (*L'Union Méd.*, June 19 and 24, 1879.)
3. SERGUIN.—Paraplegia occurring in Syphilitic Subjects. (*Archives de Dermatologie*, 1879, No. 2, p. 123.)
4. MAURIAC.—Bubon d'Emblée. (*Gazette des Hôpitaux*, June 12, 19; July 1, 31, 1879.)
5. BOUCHERON.—Infecting Chancere of the Conjunctiva. (*L'Union Médicale*, April 1, 1879.)
6. PELLIZZARI, CELSO.—On Epileptiform Syphilis. (*Della Sifilide Epileptiforme*, Florence, 1879; extract from *Lo Sperimentale*.)
7. FOURNIER.—Confrontation in the Diagnosis of Syphilis. (*Gazette des Hôpitaux*, June 3, 1879.)
8. FOX.—Prolonged Incubation of Syphilis. (*Archives of Dermatology*, 1879, No. 3, p. 267.)
9. GOSSPLIN.—Syphilitic Stricture of the Rectum. (*Gazette des Hôpitaux*, August 21, 1879.)
10. MICKLE.—Syphilis and Mental Alienation. (*Journal of Mental Science*, October 1879, p. 389.)
11. SEXTON.—The Sudden Deafness of Syphilis. (*Amer. Journal of the Medical Sciences*, July 1879, p. 57.)
12. FOLINEA.—Excision of the Initial Lesion of Syphilis. (*Il Morgagni*, August 1879.)
13. PARROT.—The Treatment of Hereditary Syphilis in Infants. (*Gazette des Hôpitaux*, August 30, 1879.)
14. HUGENARD.—Gonorrhoeal Rheumatism. (*Recueil de Méd. de Chirurg., et de Pharmacie, Militaires*, Sept.-Oct. 1879, p. 525.)
15. SQUIRE, BALMANNO.—A Case of Rupial Syphilide. (*Med. Times and Gazette*, November 8, 1879.)

1. Duplay on Syphilitic Myositis.—The following case occurred in the service of M. Duplay. A man had an abscess in the axilla, supposed to have been caused by the use of a centre-bit in his work. The abscess broke, and much pus escaped. There was no lesion of any of the fingers. The wound gradually ceased to discharge, and was going on well when, three weeks after the opening of the abscess, redness appeared over the whole pectoralis major, together with slight oedema and pain on trying to separate the arm from the side. The pectoralis major subsequently became as hard as wood, and the arm could not be moved. M. Humbert, who had charge of the patient, diagnosed suppuration, and passed a drainage-tube through the muscle, but with no good effect. The history of the patient was then inquired into, and syphilis was found to have been contracted four years previously. Under specific treatment, all the inflammatory symptoms as well as the hardness quite disappeared, but the muscle became atrophied.

2. *Vallin on Aneurism of the Aorta in a Syphilitic Subject.*—A man, aged 48, had aneurism of the aorta and a swelling on one tibia. Death occurred from the bursting of the aneurism opposite the head of the pancreas. Under antisyphilitic treatment, the tibial swelling had diminished. The morbid specimens were shown by M. Vallin, at the Société Médicale des Hôpitaux, and gave rise to a discussion on the relation between syphilis and aneurism. M. Fournier considered it demonstrated beyond doubt that aneurism might result from syphilis, not strictly as a syphilitic lesion, but as a consequence of lesion of the walls of the vessel developed by syphilis. Syphilis ought assuredly to take a place in the etiology of aneurism, but in what proportion of cases was not yet known. The non-success of remedies was no argument against this view, because aneurism, once formed, was an accomplished lesion, just as was a perforation of the palate, upon which we could not expect medicines to have any effect. M. Cornil said syphilis had a great deal to do with arteritis, but when an aneurism had once formed, specific treatment was powerless.

3. *Seguin on Paraplegia in Syphilitic Subjects.*—Dr. Seguin gives details of four cases of paraplegia in syphilitic persons in which specific treatment was more or less successful. A fifth case was diagnosed as non-syphilitic, but recovered under antisyphilitic remedies. The sixth case was supposed to be syphilitic, but was not benefited either by mercury or by iodide of potassium. The author remarks that the treatment of paraplegia supposed to be caused by syphilis should be very energetic. The patient should be brought under the influence of mercury as soon as possible, and at the same time iodide of potassium should be given in gradually increasing doses from thirty grains up to six or even eight drachms daily. There are many reasons for doubting whether all cases which improve or recover under mercury or iodide of potassium are necessarily due to syphilis.

4. *Mauriac on "Bubon d'Emblée."*—The term "Bubon d'émblée" means the absorption of virulent pus at a certain point, and its transport to a lymphatic gland without appreciable lesion or solution of continuity of mucous membrane, skin, or lymphatics. M. Mauriac has never seen such a case, but reports three cases which might easily have been mistaken for bubon d'émblée. Case I.—A man, aged 38, was admitted under M. Mauriac's care in November 1874 with a swelling in the groin, but nothing on the genital organs, and no history of a sore since 1867. The swelling burst and left a large ulcer. No signs of syphilis could be made out. The sore in the groin became so like a chancreous bubo that M. Mauriac diagnosed it as such, supposing that a chancre had existed, and had been so small as to have escaped the patient's notice, and healed before he came under observation. Auto-inoculation, and afterwards cauterisation, was ordered; but, through some mistake, the ulcer was cauterised first, so of course inoculation was useless. Iron was given internally, and various applications, including a solution of tartrate of iron, were used locally. Cicatrization took place at the end of a month, and the patient went out. Some time afterwards, the man was re-admitted, as the sore had broken out again. The scrotum also was implicated, and the ulcers became phagedænic. M. Mauriac now thought of syphilis, and prescribed specifics, under which rapid improvement at once occurred. This man, in M. Mauriac's opinion, assuredly became

syphilitic in 1867, but the disease had afterwards remained latent. Latent syphilis is not uncommon, and may cause mistakes in diagnosis as in this case. When in doubt, the repetition of morbid action in the same place, as happened here, may put one on the right track. Case II.—A man, aged 34, had painful swelling in the right groin, which finally burst and discharged much pus, but the opening did not heal. Inoculation gave no result. There was no lesion of any part of the area supplied by the lymphatics to account for the abscess. No other glands were enlarged, and there were no signs of syphilis. The man had had chancres six years previously. Gumma of the glands was diagnosed, and mercury and iodide of potassium were given, simple ointment being applied to the sore. In twenty-three days it was almost healed. Case III.—A man, aged 54, who had not had any connection for more than six months, had a swelling in each groin, oblong, red, and fluctuating. No lesion of penis, scrotum, thighs, perineum, or anus could be discovered. In 1875, he had been treated by M. Mauriac for mucous patches of the scrotum and throat. The swellings were incised, and much thick offensive pus escaped. The wounds became phagedænic, and put on exactly the appearance of virulent buboes. Inoculation gave negative results. Under large doses of iodide of potassium internally, and the local application of iodoform, the sores healed completely. The inguinal swellings in this case were perfectly symmetrical. M. Mauriac has frequently observed the symmetrical development of gummatous formations, and was much astonished to find that Mr. Hutchinson regarded asymmetry as a distinctive character of tertiary lesions. M. Mauriac then ably criticises various cases put forward by different observers as examples of bubon d'émblée, and comes to the conclusion that there is no satisfactory case on record. In a doubtful case, inoculation should always be practised, and, failing that, specific remedies should be tried.

5. *Boucheron on a case of Infecting Chancre of the Conjunctiva.*—A girl, aged 18, consulted M. Boucheron about her eye, which had been bad for a fortnight. There were redness and swelling of the palpebral and part of the ocular conjunctiva, and a very small amount of ulceration. Induration was not appreciable to the touch through the eyelids. There was a chain of enlarged indolent glands on the corresponding side, including the preauricular and cervical glands. Roseola followed. Examination of the genital organs gave a negative result. The hymen was entire. Contagion by kissing was probable.

6. *Pellizzari on Epileptiform Syphilis.*—Dr. Celso Pellizzari details the particulars of three fatal cases of cerebral disease, accompanied by convulsive attacks, in syphilitic subjects, which occurred in the hospital at Florence. Case I.—A man, aged 38, was admitted on account of convulsions, which had recurred more or less frequently during several days. There was a history of syphilis sixteen years before, and the man bore marks of old syphilitic sores about his body. He married five years after having contracted syphilis, and became the father of five sons, who died soon after birth. A sixth son was still living. There was no family history of epilepsy, and the first convulsive attack had occurred about ten months before the patient came under observation. On admission, the convulsions were confined to the left side of the body, and recurred almost every ten minutes, but soon became more general

and with less interval between the attacks. Unconsciousness gradually supervened, and the man died two days after admission. The case on admission had been recognised as a syphilitic one, and mercurial inunction, with iodide of potassium internally, had been at once prescribed. *Post mortem*, there was found firm adhesion of the membranes to the right frontal lobe of the brain, over an area about the size of a five-franc piece. At this spot also the cortex of the brain was to a great extent destroyed, and its place taken by well-organised connective tissue. There were bony formations on the internal surface of the cranium, and also in the meninges; and gummy nodules of both testicles. Case II.—A boy, aged 8, born of syphilitic parents, who had himself been under treatment at various times for congenital syphilis, was suddenly seized during the night with a convulsive attack of very short duration. Next morning another fit occurred, involving only the left side of the body. In a third attack, the child fell down in the street. There was no family history of epilepsy. Other attacks occurred from time to time, and the child was brought to the hospital. After admission, under mercurial inunction and iodide of potassium internally, great improvement took place; the fits became much less frequent, and the child began to walk about the ward. All was apparently going on well, when the patient was attacked suddenly by typhoid fever, and died in about three weeks. *Post mortem*, the skull and dura mater were found quite healthy, as was also the pia mater, except the right parietal region, where it was a little thickened and opaque. There was slight wasting of the brain-substance. No gummata nor tubercles were found. At the upper part of the right lung was a circumscribed patch of pneumonia surrounding a cicatrix, which seemed to be that of a bygone gumma. The liver presented a deepish cicatrix on its convex surface. In the intestines, clear evidence of typhoid was found. The author relates a third fatal case in which convulsions, beginning unilaterally, were probably due to syphilis. He also refers to the writings of most of those who have written on brain-syphilis of late years, and discusses at considerable length the etiology, diagnosis, prognosis, and treatment of cerebral syphilis, attended by epileptiform seizures.

7. *Fournier on Confrontation.*—Confrontation is sometimes of great value in the diagnosis of doubtful cases of syphilis, but only under certain conditions; e.g., the man must not have had connection with any woman other than the one in question for a given time; and the confrontation must take place within a short period after contagion, otherwise signs of disease in the woman may have had time to disappear. A patient came with a sore of the nature of which M. Fournier could not be sure, as it had been cauterised and otherwise irritated. An immediate diagnosis was necessary, on account of approaching marriage. On examination of the woman, she was found to have unmistakable syphilis. M. Fournier thereupon diagnosed syphilis in the man, which turned out to be the case.

8. *Fox on Prolonged Incubation of Syphilis.*—A patient presented himself a few weeks after connection with herpes of the prepuce and balanitis. There was no trace of induration, and nothing like a chancre. The trouble healed under simple treatment, but recurred. In about two months from the time the patient was first seen, and precisely two months and two weeks after the last coitus, a slight abrasion, with some degree of induration, appeared,

and rapidly developed into an undoubted initial lesion of syphilis.

9. *Gosselin on Syphilitic Stricture of the Rectum.*—In M. Gosselin's opinion, this kind of stricture is of an inflammatory nature, resulting from fibrous transformation of the submucous cellular tissue, and perhaps also of the mucous membrane itself, following an inflammation of these structures, having its origin in a rectitis caused by chancres of the anus. M. Gosselin calls this "syphilitic rectitis", and also calls the stricture which is the consequence of it "syphilitic stricture", but states that he does not therefore mean that it is dependent on the syphilitic diathesis, but simply that the origin of the rectitis is a chancre, causing inflammation of the anus, which inflammation afterwards extends into the interior of the bowel. As regards treatment, M. Gosselin, till lately, has been content simply to dilate, and in cases of narrow strictures of small extent, to notch them with a bistoury at several points. Now, however, he employs the treatment recommended by Verneuil, which consists in complete section of the strictured parts by Paquelin's cautery. By this means the retention of fæces and purulent matter above the stricture is prevented.

11. *Sexton on the Sudden Deafness of Syphilis.*—It has long been known that syphilis may invade the ear, but the prevailing opinion used to be that the seat of the disease was the labyrinth. More knowledge, however, seems to show that the part chiefly affected is the middle ear and its conducting mechanism. Four cases of sudden deafness in syphilitic persons are detailed. In none of the four were there prominent throat symptoms or obstruction of the Eustachian tubes. Treatment almost entirely failed in all. Syphilitic affections of the ear causing sudden deafness are of exceptional occurrence, and seem to be induced by a pre-existing hyperæmia in the ears, excited by sympathetic relationship, or by an intercurrent attack of aural mucous catarrh. The attacks occur suddenly, and both ears are usually affected simultaneously. The deafness is always very great. The syphilitic affection speedily interferes with the integrity of the chain of ossicles; it is generally unattended by pain; it is non-purulent, and is incurable. The middle ear is seldom or never affected by direct extension of syphilitic disease from the throat along the Eustachian tube.

13. *Parrot on the Treatment of Hereditary Syphilis in Infancy.*—M. Parrot never subjects an infant to treatment unless it shows signs of syphilis, although one or both of its parents may be syphilitic. It should be remembered that whatever may be the state of the parents, the offspring is *not necessarily* the subject of hereditary syphilis. Treatment ought to be adopted under the following circumstances. 1. When the child shows signs of syphilis, in the skin, mucous membranes, or bones; 2. In the absence of such apparent signs, when it is affected by chronic and obstinate gastro-intestinal troubles which resist ordinary treatment. These symptoms point to visceral syphilis, which should always be thought of in such cases. When the manifestations of syphilis appear at birth, or very shortly after, mercury is the only effective medicine. Inunction is the best mode of administering it. The ointment should be rubbed into the axillæ or sides of the chest, not into the thighs or groins, because of the irritation caused by the urine, etc. For infants under two months old, 1 gramme (15 grains) of mercurial ointment to 2 grammes (30 grains) of lard is the proper quantity to be used daily. Be-

tween the age of two and six months, $1\frac{1}{2}$ grammes (22 grains) of ointment to three grammes (45 grains) of lard; and over the age of six months, 2 grammes (30 grains) of mercurial ointment to 4 grammes (60 grains) of lard should be rubbed in daily. M. Parrot condemns the administration of mercury by baths or subcutaneous injection. The Liqueur de Van Swieten (solution of perchloride of mercury) is the best preparation when the drug is administered internally, and it should be given before meals. When later manifestations of syphilis, such as lenticular syphilides, etc., show themselves after the age of six months up to one or two years of age, the disease is no longer dangerous; and if there are no bowel symptoms, one may be nearly sure there is no visceral syphilis. In such cases, M. Parrot sees recovery occur without treatment; but, as a rule, they should be treated. Mercury is not now necessary. Iodide of potassium may be given, but M. Parrot prefers iodine alone in the following form: * Tincture of Iodine, 1 gramme (15 drops); Syrup of Gentian, or of orange peel, 100 grammes (3 ounces); a teaspoonful, divided into three or four doses, to be taken daily. The method of treatment through the mother's milk is uncertain, as one cannot tell what quantity of the remedy is absorbed.

15. *A case of Rupial Syphilide.*—A woman, aged 30, three years after infection, came under Mr. Squire's care with rupia chiefly of the face, ulceration of the left tonsil, and of one nostril. The treatment was one-eighth of a grain of red iodide of mercury, and half a grain of iodide of potassium in sarsaparilla three times a day after meals; ten grains of citrate of iron and ammonia three times daily before meals, and the application of iodoform to the ulcers after removal of the scabs. A solution of iodine was applied to the throat. In thirteen days all the sores had disappeared except one on the cheek and the ulceration of the nostril, and these were reduced to less than one-fourth of their original size. The patient's health also had much improved.

ARTHUR COOPER.

DERMATOLOGY.

RECENT PAPERS.

1. APOLANT.—On a Case of Unilateral Sweating—Hyperidrosis Unilateralis. (*Berlin. Klin. Woch.*, No. 47, 1878.)
2. BEHREND, GUSTAV.—On Pemphigus. (*Berlin. Viertelj. für Derm. und Syph.*, 1879, 2 und 3 Heft.)
3. BOELLINGER.—On the Cause of Molluscum Contagiosum. (*Archives of Dermatology*, vol. v, No. 3.)
4. BOYERLEIN.—On Pemphigus. (*Aerol. Intelligens-Blatt*, No. 49, 1878; abstract in *Viertelj. für Derm. und Syph.*, 2 und 3 Heft, 1879.)
5. BUCHNER.—On the Etiology of Area Celsi. (*Virch. Archiv.*, Band lxxiv, 5, 527; extracted in *Archives of Dermatology*, vol. v, No. 3.)
6. FOSTER, F. P.—Case of Scleroderma. (*Archives of Dermatology*, July 1879.)
7. FREUDENBERG.—On Hæmorrhagic Eruption caused by Salicylic Acid.—*Allg. Med. Centralzeitung*, Oct. 26, 1878; and *New York Medical Journal*, June 12, 1879.)
8. GUENEAU DE MUSSY, NORL.—On Endermoses, or Internal Herpetic Affections. (*La France Médicale*, No. 17, 1879.)
9. GUTTMANN.—Bromine Reaction in the Contents of

Acne-Pustules. (*Virchow's Archiv.*, Bd. 74, 1878; extracted in *Viertelj. für Derm. und Syph.*, 1879, 2 und 3 Heft.)

10. HARDAWAY.—On a Case of Multiple Tumours of the Skin. (*Proceedings of the American Dermatological Association*, 1879.)

11. JARISCH, A.—A Case of Tuberculosis of the Skin. (*Viertelj. für Derm. und Syph.*, 1879, 2 und 3 Heft.)

12. LANG, E.—Preliminary Observations on a new result found in an Investigation of Psoriasis. (*Viertelj. für Derm. und Syphilis*, 1879, 2 und 3 Heft.)

13. MARCACCI.—On Successful Treatment of a Case of Acne-Elephantiasis. (*Giornale Italiano delle Malattie Veneree e della Pella*, Feb. 1879.)

14. MONASTIRSKI, A.—On the Pathology of Leprosy. (*Viertelj. für Derm. und Syph.*, 1879, 2 und 3 Heft.)

15. NEUMANN.—On the Histology of Psoriasis Vulgaris. (*Wien. Med. Jahrb.*, 1879, 1 Heft.)

16. NICHOLS, A.—Third Report of the Medical Superintendent of Yaws Hospitals of the Island of Dominica.

17. PIFFARD, H. G.—Further Contributions to the Treatment of Lupus. (*New York Medical Record*, April 5, 1879.)

18. PREISMAN.—On the Treatment of Psoriasis. (*Wien. Med. Presse*, No. 16, 1879.)

19. SCHMITZ.—On Pilocarpin as a Cure for Baldness. (*Berlin. Klin. Wochens.*, No. 4, 1879.)

20. SHERWELL.—On the Treatment of Nævi. (*Proceedings of the American Dermatological Association*, 1879.)

21. VIDAL.—Inoculability of Molluscum—Acne Varioliforme. (*Le Progrès Méd.*, No. 22, 1878.)

1. *Apolant on a Case of Unilateral Sweating.*—In the case of a girl, aged 20, for several years the right side of the face perspired profusely, whilst the left remained dry. The perspiration ceased exactly in the middle line. In other parts of the body, the perspiration on both sides was equal.

2. *Behrend on Pemphigus.*—The author reports an epidemic of pemphigus neonatorum, which was observed at Neu-Stettin (Pomerania) by Dr. Litten, and criticises the opinions which are held regarding this disease. He considers that pemphigus foliaceus, which is described by Cazenave as a sequela of pemphigus, sometimes occurs in infants as this form from the outset, and that it is identical with the dermatitis exfoliativa of Ritter. Contrary to what is taught in the later works on dermatology, he does not regard pemphigus and pemphigus foliaceus as two separate varieties of disease. The pemphigus foliaceus, he suggests, is produced when the coherence between the epidermis and the cutis has been weakened. As pemphigus attacks infants almost exclusively in an epidemic form, it is probably contagious.

3. *Boellinger on the Origin of Molluscum Sebaceum.*—Boellinger's paper contains his conclusions concerning the identity of the peculiar corpuscles found in fowls suffering from a singular epidemic contagious disease (described in the fifty-eighth volume of Virchow's *Archiv*) with the well-known bodies found in molluscum sebaceum of the human skin. He believes that in both instances these bodies are simply gregarinæ, whose reproduction and development occur by budding. From facts lately observed, Boellinger is inclined to regard the gregarinæ of rabbits as the probable starting point of the disease. He regards its transmission from fowls to the human subject as highly probable.

4. *Boyerlein on Pemphigus.*—A boy, aged 9, had nephritis after scarlatina, with suppression of urine and uræmia. Five days after the nephritis began, the first pemphigus blebs appeared on the face.

* The French tincture has more than three times the strength of that of the *British Pharmacopæia*.

With increasing eruption the nephritic symptoms abated. The fluid of the blebs contained ammonia.

5. *Buchner on the Etiology of Area Celsi.*—The author believes that the disease is parasitic. He states that he has made repeated successful cultivation experiments, the result being invariably the development of the same fungus. This has well-marked characters of schizomycetes, and consists of small, bright, sharply contoured bodies, .001 millimètre in diameter, with very thin and short prolongations extending in opposite directions. It resembles undeveloped splenic fever bacillus.

6. *Foster on a Case of Scleroderma.*—The subject of the disease thus designated was a single woman, aged 36. The affection commenced in a slight abrasion of the left nipple, which was followed by a small hard mass imbedded in the mammary gland. Later the whole breast became more firm and less movable than normal, and infiltrations took place into the adjacent cellular tissue. These points, at first doughy, became more firm, with a tendency to involve the overlying skin. When first seen by Dr. Foster, the disease affected the whole of the skin of both breasts, that over the sternum, and the whole left half of the chest in front (besides creeping around to the scapula behind) as well as the greater portion of the left arm and forearm. The proper substance of the left breast was very much shrunken, and the nipple was surrounded with a groove of ulceration. The most decidedly indurated portions of the skin were of a board-like hardness, and thinned, while the other indurated parts were somewhat swollen. The former were sharply defined; the latter less definite in outline. The disease eventually spread over almost the entire trunk, as well as both arms. All the left breast became covered with highly vascular granular tissue, and the patient suffered from almost constant pain in it, of a burning character. After suffering terribly from dyspnoea, the patient died. No necropsy was made. [The paper describing the case was read before the American Dermatological Association in 1878. The diagnosis was called in question by several members, and Dr. Heitzmann remarked "that from the history there could be no doubt that the case was one of lenticular cancer, and not scleroderma at all". In the paper in the *Archives* the progress of the disease on the skin is illustrated by woodcuts, and from their testimony, and from the description of the case the reporter is induced to believe that the case is one of cancer of the breast, producing very remarkable and unusual changes in the skin. "Two eminent surgeons in New York had diagnosed the case as cancer."—*Rep.*]

7. *Freudenberg on Hæmorrhagic Eruption caused by Salicylic Acid.*—Freudenberg reports the occurrence upon the skin of numerous and large petechiæ and vibices after the use of salicylic acid for six days, which continued to appear for a day after the omission of the drug. The eruption became paler, and terminated after a week in excessive desquamation of the affected parts. After the disappearance of the cutaneous symptoms the acid was again given, but it was immediately followed by the same hæmorrhagic manifestations, and by desquamation as after scarlet fever.

8. *Gueneau de Mussy on Internal Herpetic Affections.*—Dr. Gueneau de Mussy has observed in cases of urticaria, accompanied by vomiting, colic and diarrhoea, incontestable patches of urticaria on the palate, fauces, and pharynx, and believes it therefore to be more than probable that the eruption existed

throughout the whole extent of the digestive tube, and there provoked the functional troubles of the organ.

9. *Guttman on Bromide Rash.*—Bromine was detected in the contents of the pustules on the face of a man who had taken bromide of potassium for a year.

10. *Hardaway on a Case of Multiple Tumours of the Skin.*—The case seems to be unique. Tubercles and tumours, varying from the size of a small pea to that of a hickory nut, accompanied with intense pruritus, had existed for twenty-two years on the hands, arms, feet and legs, in an unmarried woman, aged 51. The lesions did not extend beyond the shoulders and knees. Dr. Heitzmann found on microscopical examination hyperplasia of the epithelial and connective tissues of the upper layers of the skin.

11. *Järisch on a Case of Tuberculosis of the Skin.*—The patient was a man, aged 42. An ulcer which encircled the left ear had a red, swollen and moderately infiltrated border. The redness extended 5 millimètres; the edges were movable on their bases, but were not undermined. They were nibbled, ragged, and covered with pus. The radius of the curve of the ulcer was about 3 centimètres. When the crusts had been removed from the ulcer, it presented a reddish-yellow granular shallow surface, which did not bleed unless roughly treated. The border of the ulcer was composed of five segments of circles, showing that the ulceration had advanced from five centres. The cervical glands were moderately swollen; the mucous membrane of the fauces was red. The man died of general tuberculosis. The diagnosis was determined by the absence of characters which would have shown the ulcer to belong to any of the known categories, and by the little disposition to bleeding of the surface when touched; also by the jagged condition of the edge and base. It was confirmed by a microscopical examination made *post mortem* by Dr. Hanns Chiari, who found a large number of unmistakable miliary tubercles, both in the edge and in the surface of the ulcer. Dr. Chiari remarks, as illustrative of the rarity of tubercular ulceration of the skin, that in seven thousand *post mortem* examinations which have been under his observation in the Vienna hospital, he had only met with it five times, and in all these cases the lips had been the seat of ulceration.

12. *Lang on a Psoriasis-Fungus.*—When the scales in psoriasis are carefully removed, a thin pellicle is laid bare which can be removed in a piece. This pellicle, according to Lang, consists of epithelium, detritus, and a fungus. The fungus-elements are either scattered singly or accumulated in groups, and consist of a mycelium and spores. The spores are round or oval, are 0.006 to 0.008 millimètre broad, and twice as long. The mycelium is 0.002 to 0.004 millimètre broad. The length of the hyphen is usually 0.1 millimètre or a little more. Ten times that length had been met with. This fungus the author asserts is found in psoriasis as often as the trichophyton in tinea tonsurans. He proposes to call it epidermido-phyton.

13. *Marcacci on successful Surgical Treatment of Acne-Elephantiasis.*—The patient, a man aged 65, began to suffer from acne of the face in 1855. In 1878, the nose had enlarged, until the projecting part of the tumour extended to half way between the lower lip and the point of the chin. Laterally, there was a corresponding increase. The enlargement was suc-

cessfully removed by the knife, and the author states that his case is the first successful one reported.

14. *Monastirski on the Pathology of Leprosy.*—A very detailed examination was made of the skin and viscera of a man, aged 29, who died of the disease at St. Petersburg. The author concludes that the granulation-cells, which are found in leprosy, are white blood-cells little altered. He finds that blood-vessels long persist in the nodules in normal number, but that they may eventually become diseased. To this persistence of the blood-supply, he attributes the long duration of the lepra-nodule as compared with a syphilitic gumma. He found no capsule round the cell-masses, such as had been described by Simon and Kaposi. He found nodules of true leprosy, not only in the mucous membrane of the mouth, but in the liver, testicle, and large intestine. The cells of the nodules undergo fatty degeneration. They may be absorbed, or on the other hand break down and lead to ulceration.

15. *Neumann on the Histology of Psoriasis.*—Neumann has subjected the skin in psoriasis to a renewed examination, and finds that in an early stage the cells of the rete assume a horizontal position, the "prickles" disappear, the so-called "nuclear cells" increase, and instead of one, there are several rows of cylindrical cells. There is a growth of the rete in the form of projections downwards, which arrange themselves in networks. These epithelial formations compress the papillæ and obliterate the vessels. The papillæ are found twelve or fifteen times enlarged, and new ones are formed. These are often bottle- or pear-shaped, and filled with exudation cells. The latter are especially found in the superficial layer, and in the adventitia of the vessels; in some cases these cells were found around the sweat coils. The blood-vessels are widened and twisted; in severe cases the epithelioid lining is the seat of growth, and the muscular coat is hypertrophied. There is excessive growth of the peripheral cells of the glands. The rapid reformation of epidermic cells in psoriasis takes place from the epithelium between and over the papillæ, and the contents of the follicles, in the same way as wounds are covered by new epidermis. The production of horny cells from the sweat-glands, which has been described by some observers, is easily disproved. The inflammatory hyperæmia in psoriasis is an essential part of the disease. In this hyperæmia is to be found the cause of the hypertrophy of the epidermis, of the cutis, and of the growths in the cutis; everything that increases the hyperæmia, increases the disease. [Whence the hyperæmia? A simple hyperæmia shows itself on the skin as erythema; and amongst the most effectual applications in psoriasis, some directly increase the flow of blood to the skin.—*Rep.*]

16. *Nicholls on Yaws.*—The author proposes to substitute for the older descriptions of the disease the designation of squamous, papular, encrusted, tubercular, and ulcerative forms. The disease is very amenable to treatment. Improved diet, cleanliness, and tonics may lead to rapid recovery; but the influence of sulphide of calcium, mercury, and iodide of potassium, as curative agents is insisted on. In 466 cases the average time of detention in hospital was only three months and nineteen days; the shortest time occupied in a cure was twenty-seven days, and the longest over sixteen months. In trying to come to some definite idea

regarding the nature of the disease, the following figures are of interest:—

Period of Life.	No of Cases.
Under five years - - -	82
Five years and under ten - -	142
Ten years and under fifteen -	82
Fifteen years and under twenty -	37
Twenty years and under thirty -	49
Thirty years and upwards -	74

Dr. Nicholls believes the disease to be contagious, but not hereditary, and considers that the affections known as Delhi sore, Bouton de Biskra, Bouton d'Alep, Caneotica, and the Parangi disease of Ceylon "bear in many symptoms a remarkable likeness to yaws." [Dr. Nicholls' description is very strongly suggestive of syphilis, although it should be stated that he himself does not regard the disease as syphilitic. There can be no question that many cases of the Boutons d'Alep and Biskra are instances of tertiary syphilis, and there can hardly be found a more vivid picture of syphilitic eruptions than in the description of the Parangi disease of Ceylon, published in Drs. Fox and Farquhar's book on skin diseases in India.—*Rep.*]

17. *Piffard on the Treatment of Lupus.*—Dr. Piffard concludes that, when excision is impracticable, scraping followed by the actual cautery is the least painful of the radical operations that have been proposed, and cicatrization is most rapid. The resulting cicatrix is smooth and less disfiguring than that which follows spontaneous involution or the potential caustics.

18. *Preisemann on Salicylic Acid in Psoriasis.*—A solution of salicylic acid in alcohol (1 in 16), when rubbed over the psoriasis patch, removes the scales in a few minutes, and prepares the skin for further treatment.

19. *Schmitz on Pilocarpin as a Cure for Baldness.*—After three subcutaneous injections of the muriate of pilocarpin (to promote absorption of membrane after an operation for cataract), within fourteen days, the patient, who had been bald for twenty years, recovered his hair (!)

20. *Sherwell on the Treatment of Nævi.*—The treatment of nævi by tattooing with needles dipped in solution of chromic or carbolic acids had, the author stated, continued to afford him good results.

21. *Vidal on the Inoculability of Molluscum Contagiosum.*—A successful case of inoculation with the contents of a molluscum. G. THIN, M.D.

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. DERBY, RICHARD H.—A Peculiar Form of Corneal Opacity. (*New York Medical Record*, May 3, 1879.)

2. WEBER-LIEL.—On Experiments of Section of the Intercranial Trigemini, and their Relation to the Origin of Affections of the Middle Ear. (*Monatsschrift f. Ohrenheilkunde*, No. 9, 1879.)

3. MORANO.—On the Pathology and Treatment of Detached Retina. (*Giornale Internazionale delle Scienze Mediche*, nuova serie, anno i, Fasc. 9, p. 959.)

4. FANO.—On Certain Methods of Improving Vision in Cases of Detached Retina. (*Journal d'Oculistique et de Chirurgie*.)

5. KNAPP.—On Primary Acute Suppurative Inflammation of the Middle Ear.

6. SEXTON, SAMUEL.—The Sudden Deafness of Syphilis (*American Journal of Science*, July 1879.)

1. *Derby on a Peculiar Form of Corneal Opacity.*—Dr. Derby reports a case of a somewhat rare affection. He found a band-shaped corneal opacity extending from one side of the cornea to the other, occupying the region exposed when the lids are but half open, symmetrical on both eyes, and leaving the rest of the cornea unaffected. It is, he believes, situated in the superficial lamella, is at first grey or yellowish brown, and, later on, shows white spots. Von Græfe has likened it to the effect "of smearing across the cornea salve containing some metallic salt". In some cases, excessive tension and symptoms of glaucoma simplex supervene; in others, the iris is affected, and posterior synechiæ form. A microscopic examination of a similar case by Goldzieber showed that in the anterior lamella "masses looking like free pigment could be seen", which "proved to be colloid, lying in the superficial layer of the cornea. The corneal epithelium was thickened, and in places showed hyaline degeneration". The treatment advised is iridectomy, which is said to have an "effect upon the advance of the corneal process, and in checking the secondary changes to which such eyes are liable".

2. *Weber-Liel on Experiments of Section of the Intercranial Trigemini, and their Relation to the Origin of Affections of the Middle Ear.*—Dr. Weber-Liel has formerly dwelt upon the theory that a series of affections of the ear depend upon a primary affection of the nervus trigeminus, either at the periphery or at the centre. The most prominent symptoms are a paresis of the tube musculature, and symptoms of collapse of the tube resulting therefrom; irritation of the region supplied by the sensory branches of the fifth, and vaso-motortrophic disturbances in the meatus followed by a hyperæmic condition of the middle ear, with marked anomalies of function. He considers that symptoms resembling those of catarrh in the naso-pharyngeal space frequently arise from vaso-motortrophic disturbances. Dr. Gellé, in the *Gazette Méd.*, No. 1, 1878, says, "that Duval and Laborde observed that, after lesions of the medulla oblongata there arose trophic disturbances of the eye and nasal mucous membrane of the corresponding side, in consequence of section of the descending root-fibres of the nervus trigeminus". Gellé undertook an investigation on the mucous membrane of the tympanic cavities of dogs and rabbits, whose nervi trigemini had been operated upon in the same way, and found marked increase of the vascularity of the corresponding cavity. The dogs are kept alive ten or twelve days, and, in addition to vascularity, the presence of pus in the cavity was determined. Professor Hagen has given in the *Archiv für Experimentelle Pathologie und Pharmacologie* his observations on the same point. Thirteen rabbits had section of the fifth performed upon them. In two of these—one of which was killed twelve hours, and the other thirty-one hours after the operation, an exudation was found in the cavity; while in four animals which lived longer (four, eight, seventeen, and fifty-nine days), a decided increase of the vascularity of the cavity was observed. Dr. Weber-Liel attaches importance to this increased vascularity of the mucous membrane. He says that, after the injection of irritants into the cavity, section after a few days shows

perforation of the membrane, and a copious exudation is found, but there is scarcely a noticeable increase of the vessels of the promontory; if such is present, he considers it the sign of a previous violent inflammation, and he believes that the changes found by Hagen in the cavity in the animals mentioned are to be accounted for by the induced otitis neuro-paralytica. But Hagen did not find an increased vascularity in any of the remaining nine animals which had only lived from one to fifty-five hours after the operation, nor did he find in those in which exudation occurred, that it was one of a frothy character. In none of the thirteen vivisections was the mucous membrane macerated, or opaque, or thickened, as Gellé had found them.

W. LAIDLAW PURVES.

3. *Morano on the Pathology and Treatment of Detached Retina.*—Dr. F. Morano enters into the subject at considerable length. He considers that the researches of Ivanoff, Poucet, and Raehlmann, have conclusively established that detachment of the retina can arise from several distinct causes. Choroiditis is perhaps the most common, but partial or total liquification of the vitreous body in progressive myopia is also another. He believes that so long as the vitreous body is unchanged both in volume and physical properties, its detachment by the formation of a layer of fluid between it and the choroid is impossible. Detachment of the retina will always be found to depend on *distension*, that is on some *vis à tergo*, never on *attraction*, or *vis à fronte*, except perhaps in the case of an intra-ocular tumour. As regards treatment he reviews the various methods of puncture through the sclerotic, with evacuation of the fluid, as suggested by Siebel, of laceration and of drainage. The first of these has, on the whole, given the best results. The last is both dangerous and inefficacious. In the author's opinion, in recent cases of detachment, medical is of far greater importance than surgical treatment. He advises the use of the artificial leech, coupled with absolute repose of the eye in a dark room, a compress bandage, and mercury to salivation, with subsequently, if necessary, a course of iodide of potassium. One case so treated recovered in four weeks sufficiently to read No. 7 of Wecker's test-types.

4. *Fano on certain Methods of Improving Vision in Cases of Detached Retina.*—Dr. Fano suggests that as detached retina is practically an incurable affection, it would be more rational to direct treatment to utilising for purposes of vision any portions of retina still remaining unaffected. With this object he recommends making an artificial pupil opposite any existing healthy portion. In cases where one eye is completely, and the other partially, blind from this affection, he would combine a tenotomy with an iridectomy, there being, under the circumstances, no danger of causing diplopia. Much good, he thinks, might also in many cases be done by the judicious use of prisms. Various prisms should be tried in succession, until one has been found which makes the rays of light fall on the most percipient portion of retina. It should then be worn permanently. If necessary, the treatment by prisms may be combined with an iridectomy or a tenotomy, or with both.

LITTON FORBES.

5. *Knapp on Primary Acute Suppurative Inflammation of the Middle Ear.*—Dr. Knapp, of New York, reports that of 2,527 cases of ear-disease in his private practice, 182, or 7.2 per cent., suffered from this disease. Of his hospital patients, only

6.26 per cent. were thus affected. The disease is most common in childhood up to five years of age; more common in winter than summer. In 85.71 per cent. the disease was unilateral, in the remainder bilateral. The most common cause of this affection is cold, commencing in the nasopharyngeal cavity and spreading up the Eustachian tubes. In 8.78 per cent. sea-bathing was the immediate cause. In 7.74 per cent. it occurred during scarlatina. Other causes mentioned are diphtheria, measles, pneumonia, the improper use of the nasal douche, penetration of cold water and alcohol into the ear, eczema of the external ear, mumps, and varicella. Of the 182 cases, 64.83 per cent. were cured; 7.69 per cent. improved; 3.85 per cent. passed into chronic catarrh, and 4.39 per cent. into chronic suppuration of the middle ear. 17.03 per cent. were only examined once, and 2.19 per cent. ended fatally. In regard to treatment, the author strongly recommends confinement to bed; and, in cases in which the discharge diminished and pain in the head occurred, symptoms which seemed to indicate perforation of the mastoid process, he found great benefit from steam in the ear. The author has rarely performed paracentesis of the drum-head. He only employs perforation of the mastoid process when, in addition to arrested secretion and serious cerebral symptoms, the mastoid region is reddened, swollen, and tender on pressure.

E. CRESSWELL BABER, M.B.

6.—*Sexton on the Sudden Deafness of Syphilis.*—Dr. Samuel Sexton, surgeon to the New York Ear Dispensary, draws attention to this manifestation of syphilitic disease, which he describes as occurring during the secondary period of the infection. Heretofore this lesion has been generally thought to have its seat in that portion of the ear occupied by the terminal filaments of the auditory nerve—viz., the inner ear; but Dr. Sexton believes that the difficulty lies mainly in the conductive apparatus of the middle ear, and that impressions of sound fail to reach the nerve on account of anomalies of the latter. He has found a confirmation of this conclusion in the fact that the patients could hear themselves talk or sing, frequently with correctness, while no ordinary sound of the voice penetrated the ear from without. He believes, furthermore, that the ear is not invaded by syphilis in these cases from the throat, through the Eustachian tube, but that the attack is invited, as it were, in most instances, by pre-existing hyperæmia, or catarrhal inflammation of the middle ear arising from other causes. These special invasions of syphilis are characterised by their suddenness and by their severity. Both ears are usually affected almost simultaneously, and the recorded cases seem to show that neither ear entirely escapes under any circumstances. A rapid deposition of lymph probably takes place in these cases, causing instantaneous fixation of the ossicles. So rapid indeed is the invasion, that one patient went to bed with good hearing in one ear, and when he awoke in the morning his hearing was gone; the other ear had become deaf with even greater suddenness. The two attacks in this case were two years apart, and were both immediately preceded by a detonation compared to a pistol-shot, and extreme vertigo and vomiting. Dr. Sexton states that most distressing tinnitus aurium usually accompanies this disease from the outset. The affection is not a suppurative one, none of Dr. Sexton's reported cases having that character; indeed, the visible lesions of the ear are in no way commensurate with the gravity of the

disease. The inner end of the meatus is usually hyperæmic, and the epidermis exfoliates; the drum-membrane is thickened, ashy in hue, and of course lustreless; its plane is not always altered, and the Eustachian tubes are free. Dr. Sexton performed paracentesis of the membrana tympani on some of these cases, but found no fluids in the tympanic cavity. The disease is not a painful one, as far as the ears are themselves concerned, although occasionally there was cerebral pain. The treatment of these cases has not been attended with a restoration of hearing, but it has always occurred that the patients have failed to make timely application for relief to persons competent to recognise the importance of the aural disease. Treatment, to avail, must be most prompt, and should consist of the internal, together with the cutaneous, use of mercurials, in combination, perhaps, with the iodide of potassium.

REVIEWS.

Metalloscopy and Metallotherapy. By A. HUGHES BENNETT, M.D. (*Brain*, vol. i, part iii: October 1878.)

Clinical Lecture on a Case of Complete Anæsthesia of the Right, and Partial Anæsthesia of the Left, Side. Experiments on Metalloscopy and Metallotherapy. By A. HUGHES BENNETT, M.D. (*British Medical Journal*, November 25, 1878.)

During the past year much has been written on the subjects of metalloscopy and metallotherapy, which have attracted a considerable amount of professional interest. The French have recently revived the theory that the external application of metals to the skin induces definite physiological or pathological changes in the human economy. Their experiments have been repeated and confirmed in this and other countries. The most popular explanation of the phenomena which result is, that the metallic substances when applied to the integument exert a special influence, electrical or otherwise, which produce the changes and alterations described. For example, given a patient with fits, another with permanent muscular contractions, another with anæsthesia of the skin, another with ocular disturbances, and so on, the application of certain metals to the surface of the body restores all these disordered functions. The metal which induces this desirable result on one individual need not do so on another, and, as a rule, each person is successfully influenced by one particular metal and by that alone. These facts, and the views explanatory of them, seem to have been generally accepted by most writers and workers on the subject.

The two papers before us, while admitting the alleged facts, seem to be the first in this country by direct experiment to question the explanation hitherto offered to account for them. Dr. Hughes Bennett, in the *British Medical Journal*, gives a detailed account of a case of hemianæsthesia, in which a large series of experiments were made with different metals. He points out that, at first, no metal had apparently any effect; afterwards, zinc restored the sensibility. Subsequently, other metals induced the same result, and, finally, the application of any metal was followed by changes in sensation to touch and pain. Then, non-metallic substances, such as discs of wood, were in the same way employed with exactly similar effects as

those succeeding the use of metals. From this, Dr. Bennett concludes that, whatever may be the explanation of external applications modifying sensation, it is clearly in this instance not due to electrical or other influences emanating from metals having a special action on the body. Hence the metallotherapy is a misnomer. He maintains that, although it cannot positively be demonstrated, this and other cases are better explained by supposing that the phenomena induced are rather due to the efforts of expectant attention, or to the influence of the mind over the body. He gives an example of this in the case of a girl whose leg was rendered completely anæsthetic and analgesic by simply tying a handkerchief round it, the patient, however, believing that potent applications were being employed. Prior to this the limb had been perfectly normal. Anyone who has perused Dr. Hack Tuke's excellent work on *The Influence of the Mind on the Body*, will certainly be forced to admit that phenomena quite as remarkable as these are possible, especially in hysterical women, whose emotional or imaginative qualities are strongly impressed; at the same time, there can be no doubt that many of the observations made by the French school, if confirmed, would be difficult to explain on this hypothesis; these, however, Dr. Bennett does not seem to have met with in his experiments.

Dr. Bennett confirms also the observations of M. Charcot in which the muscular power, the vascularity, and the temperature of the part were restored or increased as a result of the application of metals to the skin. But then he shows that the same phenomena follow the use of wood and other inert substances, and he argues that this is further evidence that the metals have not—at least in his cases—any special virtues, and that the results are rather due to impressions made on the body through the mind. How this is effected he does not profess to explain, but simply advances it as the most probable theory for want of a better.

Dr. Bennett goes on further to show that the symptom of anæsthesia in hysterical subjects is extremely changeable and unstable, and readily influenced by emotional circumstances which render it difficult to say positively when it is directly affected by remedies. He cites cases where persons whose skin is normal at one time are at another quite insensible to touch or pain, and this without apparent cause.

The general conclusion at which Dr. Bennett seems to arrive, from a consideration of the whole subject, is this. Most of the phenomena occurring after the application of metals are genuine, and he himself has confirmed them. These have also been produced by discs of wood and other inert substances; therefore, he believes the symptoms there induced to be the result of mental rather than of physical impressions. Of those phenomena described by others, and which he has himself not met with, he reserves his opinion as to their explanation.

The Treatment of Uterine Myoma by Abdominal Section. By THOMAS SAVAGE, M.D., etc.

The author, after some introductory remarks, says: "I look upon this operation for this disease in the same light as did the pioneers of ovariectomy thirty years ago. I believe it has a most brilliant future before it, similar in kind, though different in degree, to that of ovariectomy; and that it has passed

through successfully that stage which most important proceedings, coming as encroachments upon previously recognised ideas and modes of thought, have to encounter, namely, the question whether it is justifiable or not."

In support of this statement of his faith, he then gives brief notes (too brief we think) of six operations. Five of the six recovered, but he refers to two other unsuccessful cases of which he does not give notes, as they have already been published (*Birmingham Medical Review*, April 1874); so that out of eight operations he has five recoveries. When we consider the formidable nature of the operation and the lifelong misery to which the victims are often quietly consigned, without hope of relief, we think Dr. Savage is to be warmly congratulated on his success. Dr. Savage considers a mere exploratory abdominal section, when properly performed, "almost or quite a harmless proceeding", and hence would advocate such an operation in doubtful cases, with a view to perfecting diagnosis.

Several of the cases he records must be regarded as exploratory operations, ending in the removal of uterine tumours. Four of the patients were between 35 and 40, one was 42 and one 53. Four were single, two were married, but had never been pregnant. In three of the five successful cases the pedicle was kept outside. In the two others the stump was dropped in, as it was also in the fatal case. The death of the latter, on the tenth day, is attributed to asthenia. In five of the six cases the body of the uterus formed the pedicle; the constricting agent, whether clamp, wire, or ligature, being applied just above the cervix. In all but the first the shock was considerable, and, from the brief notes given, the patients seem to have been in considerable danger for some days after the operation.

The mass removed in the first case weighed two pounds ten ounces. The weight in the second case is not given, but from the description it appears to have been a much smaller affair; one ovary was also removed. The third case was commenced as a "Battey", and only after both ovaries had been removed a small fibroid outgrowth was found; hæmorrhage from a puncture made in transfixing its base was so difficult to check that eventually the uterus was removed, as in the other cases. The fourth case was supposed to be an ovarian tumour, but turned out to be a soft myoma. This was the fatal case. The weight of the tumour is not given. In the fifth case a cyst of the broad ligament was removed, as well as the fibroids. In this case the pedicle was extra-uterine, so that the organ itself was not removed. In the sixth case, the size of the tumour is again omitted.

In all the cases there appears to have been a somewhat prolonged period of suffering or hæmorrhage before operation was resorted to, but the symptoms calling for such formidable operations are hardly so clearly given as we could wish. All the operations were performed antiseptically, and the drainage-tube was not used in any of them. The author thinks it might have altered the result in case 4. He thinks that no one method of dealing with the pedicle can ever prevail to the exclusion of others. Both ligature and clamp have their special dangers and disadvantages, but he looks to the ligature as the most common method in the future. Shock is much more severe and prolonged in this operation than in that of ovariectomy. In a case of complete extirpation of the uterus, by Freund's method, a marked lowering of the pulse was observed every

time the uterus was drawn up by the transfixing string, and the patient died of shock in twenty-four hours, very little blood having been lost.

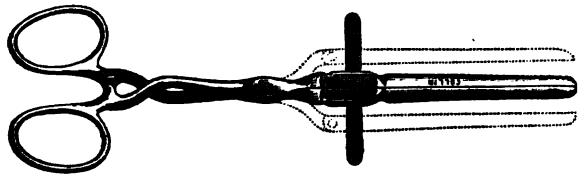
[Up to the present time, success has been much more common in cases treated by the clamp, and the reason is obvious; not only is the weeping stump brought outside, but a source of far greater danger is removed, namely, the opened uterine cavity, and this often contains septic material which at once removes all the advantage derived from antiseptics. If the ligature be used, and the stump dropped in, there is not only a strong probability that some septic material is left in the peritoneum, but there is the certainty that the transfixing silks are left in part external to the aseptic area and passing into it.—*Rep.*]

J. KNOWSLEY THORNTON.

NEW INVENTIONS.

NEW PHIMOSIS FORCEPS.

This instrument, invented by M. Cohn, is distinguished from others in that by the aid of an ingenious device, the two branches of which it is composed open in a parallel fashion. When the prepuce is seized, picking up the skin on a point is thus avoided, and there is a much greater chance of seizing it equally and of cutting it regularly without



any notches. This instrument is also so simple that it will certainly replace the ordinary forceps. The movement in question is obtained by a double joint, without any complication. The illustration represents the forceps closed, and the dotted line shows its arrangement when opened.

ROBINSON'S CONCENTRATED WATERS.

Messrs. Robinson of Manchester have long had a great reputation for their concentrated waters, from which can be prepared the ordinary waters for dispensing. We have lately had an opportunity of examining some of the kinds in most general use—cinnamon water, camphor water, peppermint water, rose and elder flower waters, and it is satisfactory to see that these valuable old preparations continue to maintain and to deserve their place in public favour. Among the host of novelties yearly brought forth there is a liability to overlook these good old standard medicaments. How many of our mothers and grandmothers can testify to the comforting, soothing, and warming effects of a good dose of Robinson's peppermint water. For all dispensing purposes, these concentrated waters are reliable and excellent preparations.

IMPROVED INDIA-RUBBER ENEMA.

Messrs. J. C. Ingram and Son, india-rubber makers, Hackney Wick, London, E., have brought under our notice very simple well made and improved

india-rubber enemas, which deserve commendation. They are made in one piece, by dipping in a solution india-rubber, and are thus free from the many joints which so often give rise to inconvenience in ordinary enemas by cracking when cold, or when the machine has been some time out of use. They have none of the heavy brass connections which are apt to cut and injure the light india-rubber bulbs and tubes, and are free from wire fastenings, which give way and cause leakages. They are made with an evidently intelligent appreciation of the principles on which india-rubber goods should be manufactured, so as to avoid the frequent causes of disappointment and trouble with such apparatus. They are, therefore, likely to be more popular and more generally used than any which we have hitherto seen.

WHEELER'S COMPRESSED CITRATE OF MAGNESIA.

Wheeler's patent compressed effervescent, commonly called citrate of magnesia, is a very interesting and clever device, presenting effervescing citrate of magnesia in a much more perfect form than it has hitherto been found in the popular and well known granular preparations. The citrates dissolve more slowly; their effervescence is maintained until the last drop of the water is swallowed. They are very fresh and agreeable in flavour, tasting like a pleasant lemonade; they are quite efficient in action, so that altogether Wheeler's compressed citrate of magnesia in cubes is one of the most pleasant of the effervescing and refreshing aperient draughts that have ever been devised. The cubes are manufactured by Wheeler and Co., wholesale and export druggists, 7, George Yard, Fenchurch Street, London.

FRY'S MALTED CHOCOLATE PASTE.

The use of malt extracts is rapidly spreading in this country; we are beginning to appreciate much more accurately the precise part played by the diastasic ferments in digestion. Malt extract, of which Messrs. Allen and Hanbury prepare a very pure form, is not only itself nutritive, but a most valuable means of promoting the digestion of the farinaceous elements of diet. The combination of malt extract with chocolate is a very happy one. It makes an agreeable and delicious drink, and this malted chocolate paste, which is made with Fry's chocolate and Allen and Hanbury's pure extract of malt, is a preparation which medical men will not be slow to test, and with which we believe they will be highly satisfied. It may be at once recommended as a valuable addition to the breakfast table of persons of weak digestion and defective nutrition, for whom it is desired to find a drink at once highly nutritive and very easily digested.

ALLEN AND HANBURY'S "PERFECTED COD-LIVER OIL."

It is a pleasure to meet with so excellent a preparation as this Perfected Cod-liver. Limpid, delicate, free from disagreeable flavour, and admirably refined by a new and improved process, the Perfected Cod-liver oil of Allen and Hanbury will henceforth take its place as a pharmaceutical product which is in its way unrivalled. The cod-liver oil of Allen and Hanbury has always had a high reputation, and that reputation will be greatly enhanced by the considerable improvements which they have now been

able to effect. This cod-liver oil is worth the attention of all who have occasion to use such material in their practice.

ZOEDONE.

Under this title Messrs. Evans, of Wrexham, have introduced to professional and public notice an effervescing drink which may be reasonably described as the teetotaller's champagne. It is an admirable invention, very agreeable in flavour, very refreshing, distinctly tonic in its qualities, containing as it does a considerable proportion of phosphates of lime, and soda, and of iron. We are not surprised to learn, on independent authority, that this drink is acquiring great popularity, and we believe that its distinctly tonic and agreeable qualities will warmly recommend it to the medical profession.

ANSWERS TO CORRESPONDENTS.

NITROUS OXIDE GAS.

A. 56.—1. Nitrous oxide gas is made by boiling nitrate of ammonia, and it is a chemical compound of nitrogen and oxygen, and not a mere mechanical mixture like the air we breathe.

2. Its action is rapidly stopped because it escapes from the system rapidly. We do not know of any satisfactory monograph on the subject.—ED.

MISCELLANY.

UNIVERSITY COLLEGE HOSPITAL.—The Rev. Henry Stebbing, D.D., F.R.S., Rector of St Nicholas Cole Abbey, E.C., has been presented with a handsome silver salver, by a number of his friends, in recognition of his long and devoted services as Chaplain to University College Hospital from the foundation in 1834 until his retirement in 1879.

APPLICATION FOR INDOLENT SORES.—A solution presented at the Dublin Pharmaceutical Conference was prepared by shaking tincture of iodine with a piece of fused potash until the colour was removed, and covering the iodoform produced by the addition of eau de Cologne or lavender water. Lint dipped in this solution and afterwards dried, proved a pleasant and efficacious application for indolent sores.

BRAND'S ESSENCES.—An appeal has been tried before Vice-Chancellor Malins in an action by G. Duce and J. J. Mason, known in business under the title of Brand and Co., Little Stanhope Street, to restrain Frank Mason from using their name on labels in selling similar articles to those which constitute the specialties of Brand and Co. The Vice-Chancellor held that the plaintiffs had the only right to use the title of "Brand and Co.," and "that the defendant had from first to last resorted to trickery and fraud in order to deceive purchasers". This decision was now confirmed, and the defendant was restrained on appeal from using the title of "Brand and Co."

FEMALE PHARMACISTS.—The Toulouse journals report the exceptional circumstance of a lady named Gaillard of Carbonne (Haute Garonne) having received a chemist's diploma, after passing a brilliant examination. There has been no previous instance of a woman having taken a pharmaceutical degree in the Toulouse School of Medicine.

CELEBRATED SKULLS.—At a meeting of the Académie des Sciences on November 17th, Baron Larrey presented a statement of the results furnished by the measurement by

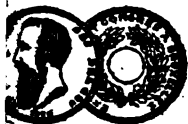
M. Lebon of the capacity of skulls preserved in the *seum* of Natural History. Measurements taken of capacity of forty-three skulls belonging to celebrated men, such as Descartes, La Fontaine, Boileau, Gall, and indicate, that the medium capacity being 14.30 cubic metres for the negro race, and 15.59 cubic centimetres for modern male Parisians, it is 16.82 cubic centimetres the average for the skulls in question. The medium capacity of these skulls exceeds then those of ordinary Parisians as much as the latter exceed that of negro skulls. Finally the medium capacity of the twenty-six most remarkable skulls reaches the enormous figure of 17.32 cubic centimetres. It is quite exceptionally that great intelligences found united to small capacity of skull.

COMPARATIVE ANATOMY AT CAMBRIDGE.—The Board of Medical Studies at Cambridge have issued the following amended schedule defining the range of the examination in comparative anatomy for the guidance of students proceeding to medical degrees. The schedule will come into operation at the second M.B. examination in June 1895. It is as follows: A general knowledge of the anatomy of the protozoa: A general knowledge of the anatomy: disposition of the digestive, circulatory, respiratory, excretory, nervous, and reproductive organs in the various divisions of the animal kingdom, as illustrated by common polype and the sea anemone, the starfish, tapeworms parasitic in man, the earthworm and the leech, the lobster, the cockroach, the fresh-water mussel, snail and the cuttle-fish, the whiting, the frog, the snake, the pigeon, the rabbit, and the sheep: A general knowledge of the vertebrate skeleton, as illustrated by the frog, the tortoise, the pigeon, the whale, the dog, the sheep.

TRANSMISSIBILITY OF HYDROPHOBIA.—It has been an obscure point hitherto whether human rabies is transmissible by inoculation to lower animals and to men. With much contradiction, there has been little scientific observation of facts. M. Raynaud has recently taken an opportunity of ascertaining the effects of inoculation of the rabid man from man in the hydrophobic state. A man in that state was brought to the Lariboisière Hospital, having been bitten in the upper lip by a dog forty days previously. He had had the wound cauterised two hours after the accident and had thought himself quite safe till some of the usual hydrophobic symptoms appeared. The day before his death, in a quiet interval he yielded himself, with the best grace, to the experiments in inoculation which were made with his blood and his saliva. The result of inoculating the rabbit with the blood was negative (as in the great majority of previous cases of inoculation with blood of animals under rabies). But with the saliva it was otherwise. A rabbit inoculated in the ear and abdomen on 11th of October began to show symptoms of rabies on 15th, being much excited and damaging the walls of the cage, while it uttered loud cries and slavered at the mouth. Then it fell into collapse and died the following night. The rabbit's body (it so happened) was not dissected thirty-six hours after death, and further experiment was made by taking fragments of the right and left submaxillary glands and introducing them under the skin of two other rabbits respectively. These two rapidly succumbed, one on the fifth, the other on the sixth day (becoming visibly ill on the third); neither passed through a furious stage, however, and the predominant feature was paralysis. The important practical result of these experiments is that human saliva, such as caused rabies in the rabbit, is necessarily virulent, and would probably have corresponding effects on man; so that it should be dealt with cautiously, and that not only during the life of the person furnishing it, but in *post mortem* examination.

DEC. 15, 1879.]

THE LONDON MEDICAL RECORD.



PRIZE MEDAL, BRUSSELS EXHIBITION, 1876.
GOLD MEDAL, SOUTH AFRICAN EXHIBITION, 1877.
PRIZE MEDAL, PARIS GRAND EXHIBITION, 1878.



PEPTOCOLOS

OR

COMPOUND PEPSINE WINE.

This preparation is simply Pepsine Wine, to which is added the other natural elements in the process of Digestion, such as Pancreatin, Diastase, Lactic, and Hydrochloric Acid, etc.

It is evident that such a combination must be far more effective as an aid to assimilation than simple Pepsine Wine.

After an extensive trial, Peptocolos has been found to bring about the digestion of food when all other remedies have failed, being a combination of all the digestive agents, and thus strengthening and recouping the enfeebled organs of assimilation.

DOSE.—One or two Teaspoonfuls in a Wine-glass of Sherry or Water, immediately after each meal.

SELECT MEDICAL OPINIONS.

From THE LANCET, Dec. 28th, 1878.

PEPTOCOLOS. This preparation is described as 'simply Pepsine Wine, to which are added the other natural elements in the process of digestion, such as pancreaticine, diastase, lactic, and hydrochloric acids, &c., etc.' The idea is a good one, and all who believe in the value of Pepsine Wine will think the remedy improved by such an admixture.

From THE LONDON MEDICAL RECORD, Sept. 15th, 1878.

PEPTOCOLOS. The addition of pancreatic, diastase, lactic, and hydrochloric acids to the various solutions of Pepsine, tend obviously to assimilate it to a highly organised digestive fluid, and will not fail to prove attractive to many therapeutists. The clinical report which we have received of the result of the use of the specimen of Peptocolos, administered in two cases of dyspepsia and thorough defective assimilation, is very favourable. The preparation is manufactured by Messrs. Richardson & Co., Leicester.

From THE PRACTITIONER, December, 1878.

PEPTOCOLOS. Messrs. Richardson & Co. have sent us a preparation having the above name. It consists simply of Pepsine Wine, with the addition of pancreatic, lactic, and hydrochloric acids. Like ordinary Pepsine Wine, it has little digestive action upon meat, but agulates milk readily, and also readily digests starch. While, therefore, it cannot take the place of Pepsine Powder in the case of adults suffering from inability to digest meat, it may be used in cases where there is deficient power to digest farinaceous food, and is likely to prove very useful preparation in the treatment of indigestion in infants.

From Dr. SAMUEL DREW, Medical Officer of Health, and Medical Officer, No. 1 District, Wortley Union, Lecturer on Public Health, Sheffield School of Medicine, etc., etc.

CHAPEL TOWN,

May 10th, 1878.

DEAR SIRS,—In reply to your enquiry, I have to say that the preparation of Pepsine which you term 'PEPTOCOLOS,' and of which I have had several bottles from you, is the best aid to feeble digestion with which I have met, being decidedly superior to Pepsine alone.

From Dr. F. K. MARCH, Bradford, June 24th, 1878.

DEAR SIRS,—In reply to yours of the 21st inst., I have only to say I am very much pleased with your preparation PEPTOCOLOS. I have found it most beneficial in cases in which I had administered Pepsine alone without the slightest effect.

From J. CARRICK MURRAY, Esq., M.D., Newcastle-on-Tyne, August 15th, 1878.

GENTLEMEN,—The stock of PEPTOCOLOS you supplied me with in June last is quite done. I have taken it myself upon several occasions, and ordered it in so many cases of weakness from indigestion, in which I have found it markedly beneficial, that now my surgery is incomplete without it, so much so that I cannot wait your next journey for a new supply. Will you kindly forward me a gallon without delay. I have now discarded all other preparations of Pepsine since using your Peptocolos, as it is so much better and far more elegant.

PEPTOCOLOS is put up in the following size Bottles—In Bottles, 2s. 9d.; 4s. 6d.; 11s.; and 22s. each.

PREPARED ONLY IN THE LABORATORY OF

JOHN RICHARDSON & CO.,

MANUFACTURING PHARMACEUTICAL CHEMISTS, LEICESTER, ENGLAND.

CAUTION.—The great demand for our Medical Specialities has caused many systematic imitations. The Profession is earnestly requested, if ordering through Wholesale Houses, to state distinctly that our preparations are wanted. They are sent out only in Bottles labelled with our Name and Trade Mark.

WHOLESALE AGENTS. London—Maw, Son and Thompson; Brussels—L. Crêteur; Bombay—Kempson & Co.; Calcutta—Smith, Sanistreet and Co.; Hong Kong—Tabor and Co.; Melbourne—Fenton, Grimwade and Co.; Sydney—Elliott Brothers; Wellington, New Zealand—Felton, Grimwade and Co.; Dunedin, New Zealand—Jempthorpe, Prosser & Co.; Adelaide—Faulding and Co.

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MADE OF THE BEST SELECTED
PARA RUBBER,

Kneaded (not dissolved), Calendered between highly polished Rollers, and free from acids or oils.

	5½ feet.	7½ feet.	10½ feet.	15 feet.	21 feet.
No. 19 (each)	2s. 3d.	3s. 2d.	4s. 9d.	6s. 3d.	9s. 0d.
No. 21 (each)	1s. 9d.	2s. 9d.	4s. 0d.	5s. 2d.	6s. 9d.

S. MAW, SON, & THOMPSON,
7 to 12, ALDERSGATE STREET,
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JAN 10 1963